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Listerian Oration.¹

TOXIC GOITRE, WITH SPECIAL REFERENCE TO END-RESULTS.

By SIR ALAN NEWTON, M.S. (Melbourne), F.R.C.S., F.R.A.C.S., F.A.C.S.,
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LISTER had an intense feeling of personal responsibility for the welfare of those whose bodies were entrusted to his care, and it was this quality which led him, almost alone among the surgeons of his time, to refuse to accept as inevitable the evils of sepsis, which so frequently brought to nought the results of even the most skilful operations, and to begin that vast series of clinical observations and

¹Delivered at a meeting of the South Australian Branch of the British Medical Association on May 26, 1938.

experiments which resulted in the perfection of the antiseptic system, his wonderful gift to mankind. No surgeon worthy of this name can approach his work without a similar feeling of personal responsibility, which must be intensified when he is compelled to advise operative measures; but his load of responsibility can be made lighter by an accurate knowledge of the results which may confidently be expected to follow this treatment. When, therefore, your President did me the great honour of inviting me to give this Listerian Oration, I thought it appropriate that I should attempt to add to this knowledge, and at the same time render an account of my stewardship of the powers conferred by Lister upon all who practise surgery, by making a clinical investigation of the results of operative treatment in some department in surgical work. Because many sections of our profession are concerned with it, I have selected that disease which can best be described by the term "toxic goitre". I

must confess at once that, though I have performed more than two thousand operations upon the thyroid gland, I do not know very much about its diseases, and must therefore be content to place before you a plain story of the results of treatment, and to avoid, as far as possible, excursions into the realms of theory and philosophy.

Clinical Material.

The clinical material consists of 450 patients, suffering from toxic goitre, who were treated surgically in my private practice during the ten-year period from 1927 to 1936 inclusive. As it was considered desirable to restrict the investigation to those cases in which complete incapacity for work was a prominent preoperative feature, it was necessary to exclude an additional 93 cases in which the toxic signs were less severe. As there were no deaths and no untoward post-operative complications in the excluded cases, it will be realized that the inclusion of this group would merely serve to improve the general results and thus to falsify the true post-operative picture in the more severe cases. I have also excluded a series of 209 patients operated upon at the Royal Melbourne Hospital during the same period, because, in the first place, it is difficult to trace these patients owing to their migratory habits, and in the second place, the treatment of toxic goitre at a public hospital is unsatisfactory for the reasons given in a former communication (Turnbull and Newton.⁽¹⁾) The cases in the Royal Melbourne Hospital were similar in severity to those in private practice; but, as will be mentioned later, the operative mortality was higher. I propose to discuss this question in a communication to be published later this year in *The Royal Melbourne Hospital Clinical Reports*. Finally, I must explain that 208 of the total 450 cases, in which operation was performed more than four years ago, form the material for a review of the late results of operative treatment, as it is obviously unsatisfactory to investigate this aspect of the subject until after the lapse of at least this time. All but four of these cases have been traced.

Classification.

The first question which must be answered in a paper of this description is: "What type of toxic goitre was treated?" The answer is that the cases comprise a "mixed bag" of all forms of this disease, with one common factor, namely, inability to work. It is easy to classify the patients by sex (there were 62 males and 388 females) and by age, the youngest patient being thirteen and the oldest seventy-two years old, 46.4% of the total number being under the age of forty years. The age incidence, in decades, is shown in Table I.

I do not propose to venture beyond these obvious methods of classification, because, though it is generally agreed that there are two main types of the disease, namely, exophthalmic goitre and nodular toxic goitre, there are numerous cases of an intermediate type which are difficult to classify in either group. It is for this reason that such

terms as "toxic goitre" or, more pedantically, in view of the occasional absence of thyroid enlargement, "thyreotoxicosis", are employed. There were recognizable eye signs, either stare or exophthalmos, in 217 cases, 48% of the total number, and, as has been shown, there was a considerable proportion of patients in the later age groups; but I must content myself with stating these facts.

TABLE I.
Age Incidence of Toxic Goitre of 450 Patients.

Age.	Number.
13 to 20 years	13
20 to 30 years	75
30 to 40 years	121
40 to 50 years	127
50 to 60 years	85
60 to 70 years	27
Over 70 years	2
Total	450

The classification of the various syndromes grouped together under the title "toxic goitre" is of greater academic than practical significance to the surgeon, because the operative treatment of all types of the disease should consist in a subtotal resection of the gland. It is true that a single adenoma, perhaps a true tumour, may produce toxic signs, which may be cured by removal of the tumour only; but the practical difficulty lies in the recognition of this state of affairs at the time of operation. I have treated in the past a small number of patients by removal of a single adenoma alone when the rest of the gland appeared to be normal, but regret to report that my judgement was faulty in approximately half of these cases, as was shown by the development later on of other nodules and the recurrence of toxic signs necessitating subtotal resection. The removal of a single adenoma may be justifiable in non-toxic cases because of the pressure effect it produces, or in order to avert the risk of malignancy; but this procedure, in toxic cases, is frequently followed by disappointing results. I therefore wish to recant the belief, expressed in a paper written five years ago in collaboration with my colleague Dr. Turnbull,⁽¹⁾ that the condition which, with a complete disregard for euphony, we described as a "toxic single lump", deserves a special place in the classification of this disease.

It seems probable that the clinical picture of toxic goitre varies in different countries and indeed in different parts of the same country. Hertzler⁽²⁾ states that, in his experience in America, goitre is a lifetime disease and that, broadly speaking, the simple colloid goitre of the twenties becomes a non-toxic nodular goitre in the thirties or forties, and a toxic nodular goitre in the fifties. Even after allowance had been made for the fickle memories of patients, this progressive development could be traced in only 20% of my cases, the great majority asserting that the goitre had developed rather rapidly and that there had been no progressive change of the type described by Hertzler.

Diagnosis.

Although it is perhaps not strictly relevant to the main theme of this paper, the next question which may be asked is: "How was it ascertained that the signs and symptoms were due to a toxic goitre?" The diagnosis of severe toxic goitre is relatively simple, even in the absence of a demonstrable enlargement of the thyroid gland; but difficulty may be encountered in early cases, in cases in which a nodular goitre is associated mainly with cardiovascular changes, and in cases of simple goitre with prominent nervous symptoms.

In some early cases the onset may be insidious, the patient complaining of little more than a vague feeling of ill health associated with some loss of weight. The symptoms may gradually progress until the puzzled physician awakens to the fact that he has been watching the slow development of a toxic goitre; or, alternatively, some intercurrent illness or an accident may be followed by the sudden development of the complete clinical picture. This state of affairs is illustrated by the following case.

CASE 401.—A male, aged twenty-eight years, a worker in a munition factory, consulted his doctor because of vague ill health and loss of weight. He was able to do his work, but did not feel "up to the mark". This state of affairs continued for eight months, when he crushed his hand in a machine. Within two weeks he presented the typical picture of severe toxic goitre. The thyroid gland, previously impalpable, was enlarged to three times its normal size, there was marked exophthalmos and the diagnosis was obvious.

The fear that he may miss a case of this type in its early stages must remain a bugbear to the consultant; but, apart from the blow to his *amour propre*, no great harm results, because in the first place operation is inadvisable until the signs are definite, and in the second place there is no specific medical treatment which can be relied upon to arrest the progress of the disease.

The common error in cases in which a nodular goitre is associated with cardio-vascular changes is to overlook the part played by the thyroid in producing this condition. In the great majority of these cases the goitre is the important aetiological factor; but I have seen one case, in which a nodular enlargement of the gland was associated with heart failure and glycosuria, which was not improved by thyroid resection, the only result of this procedure being the addition of hypothyroidism to the other troubles. This patient had been seen before operation by two physicians who possessed great experience of thyroid disease, and, in discussing the case in the light of the subsequent history, we agreed that it would be very difficult in future to avoid a similar mistake. Fortunately cases of this type are exceedingly rare.

When nervous symptoms, such as an effort syndrome, are associated with a simple goitre, it may be difficult, in this goitre-conscious country, to persuade the patient that operative treatment is not desirable. When, as is frequently the case, the patient has received a medical opinion that this step is necessary, this task is made even more

troublesome. Thyroid resection in this type of case is followed by unsatisfactory results, and it should therefore be remembered that if the patient is kept under observation there is little risk involved in delaying operation until a diagnosis of true toxic goitre can be made with confidence.

Generally speaking, the correct interpretation of the clinical evidence is of first importance in the diagnosis of toxic goitre; but of the ancillary aids the most valuable is the estimation of the basal metabolic rate. This test is of chief usefulness in doubtful cases, but, as Means⁽³⁾ points out, a single estimation is of little value. He states that the test should be repeated at frequent intervals, less attention being paid to absolute level than to upward or downward trends. Other diagnostic methods, such as estimations of the creatine and iodine tolerance, or the electrical impedance test, have not gained as yet much clinical significance. Finally, the administration of iodine by a competent physician is often useful as a diagnostic measure in doubtful cases.

Treatment.

It is unnecessary to reply in great detail to the question, "What treatment was given to these patients?" I have described in a former communication the preoperative preparation and the operative technique employed. The patients were prepared for operation by a period of rest in hospital, the administration of sedatives, calcium, iodine and vitamin B, and an ample diet rich in carbohydrates. Much has been written about the value of team work in this disease, and I should be the last to decry the great value of the help I have received from my colleagues in this way; but I believe that, except in the presence of congestive heart failure or severe glycosuria, when special medical treatment is necessary, the immediate preoperative treatment should be the responsibility of the surgeon alone, providing that he has some experience of this work. There is a great emotional factor in this disease, and it has been my experience that patients get on better during the preoperative preparation if they are visited by the surgeon only and are spared repeated examinations by different men. The optimum time for operation is determined chiefly by clinical evidence, the patient's general demeanour and his pulse rate when asleep being important guides. As a general rule a patient without complications, to whom no iodine has previously been administered, is ready for operation in from seven to ten days. There are numerous exceptions to this rule, and the surgeon soon realizes, by bitter experience, that post-operative troubles are usually attributable to a lack of care in preoperative preparation.

The usual operative procedure consisted in a one-stage subtotal resection of the thyroid gland, only a portion, varying in size from a shelled almond to a shelled walnut, being left over each recurrent laryngeal nerve. It is important to remove the whole of the isthmus and, if it is present, the

pyramidal lobe. The anæsthetic administered as a routine was nitrous oxide and oxygen preceded by the rectal administration of a small dose of "Avertin", commonly 0.09 gramme per kilogram of body weight. The choice of anæsthetic must be determined by the condition of each individual patient; for example: intratracheal ether anæsthesia is indicated when there are pronounced pressure signs, and is particularly valuable when there is an intrathoracic extension of the goitre; and light open ether, combined with continuous administration of oxygen, is often desirable for older patients exhibiting signs of advanced cardiac degeneration, as by this means it is easier to avoid any trace of anoxæmia during the anæsthesia. Local anæsthesia is desirable when there is an associated lung disease, such as pulmonary tuberculosis, but is not, in my opinion, suitable for routine use. Recently cyclopropane has been used and may prove more suitable than nitrous oxide. The choice of an anæsthetic is of less importance than the choice of anæsthetist; for very much depends upon the skilful administration of the anæsthetic selected. The great majority of these patients were anæsthetized by the late F. W. Green, and I cannot adequately express my gratitude for his skill.

This completes the description of the routine treatment; but there are some special problems which merit consideration. In the first place there were 76 cases of progressive thyreotoxicosis in this series, in which iodine therapy had been given for a prolonged period, because there are still many practitioners who prescribe this drug at once whenever they are consulted by a patient who has a goitre of any description. The use of iodine in toxic goitre should be confined to the immediate preoperative period, except in those cases in which it is deliberately prescribed by a skilled physician for diagnostic purposes. Means⁽⁴⁾ has shown that iodine has no effect upon the course and progress of the disease, but that when first administered it acts, as it were, as a dam across the outflow of the thyroid hormone from the gland, thus producing a temporary amelioration in the symptoms and signs. It does not prevent the secretion of hormone in the gland, which goes on until it reaches a level at which it overflows the dam and circulates again through the body. When this takes place the disease progresses as before, and, naturally, if the dam is removed by the cessation of iodine therapy, an exacerbation of the disease will occur (see Figure I). It therefore follows that, if the patient has been taking iodine for some time, this drug should not be discontinued; on the other hand, it may be desirable to increase its amount in order to make sure that an adequate supply is being given. Patients who have been treated in this way are always difficult to treat from the surgical point of view; so it is to be hoped that there will be a decrease in the indiscriminate administration of iodine. Means also points out that no response to iodine is observed in about 4% of cases, more commonly when patients are older

and have nodular glands and give some signs of cardiac degeneration.

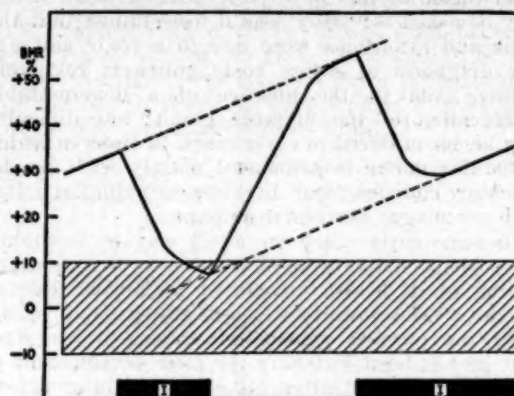


FIGURE I.

Diagram indicating iodine relationships in a patient whose thyreotoxicosis is increasing in severity. The upper broken line shows the course that would be followed if the patient received no iodine; the lower shows the course if he were kept constantly under full iodine control. (After Means.)

Another group of 83 patients had been treated by the removal of areas of supposed focal sepsis, a procedure which can be described only as time-wasting and futile in this disease; seven had undergone the equally useless treatment of the injection of various substances into the gland.

Fifteen patients had been unsuccessfully treated by X ray therapy. This method of treatment, according to Means and Holmes,⁽⁵⁾ can be expected to cure one-third of the patients, to improve one-third and to fail to benefit the remaining third. It therefore follows that X ray treatment is popular only in those places where surgical treatment is poor. Though, in my opinion, previous X ray therapy does not increase the difficulty of performing a subtotal resection of the thyroid gland, patients treated in this manner are very apt to exhibit signs of severe post-operative hypothyroidism unless more than the usual amount of gland substance is left *in situ*. Despite the fact that disappointing results frequently follow X ray treatment in cases in which the whole gland is present, there is no doubt about its efficacy when small portions of thyroid tissue left behind at operation regenerate, a point to which further reference will be made when discussing this occurrence.

Finally, I must refer to a group of 27 cases in which a former inadequate operation had been performed. I was personally responsible for twelve of the patients in this group; I had treated six of them many years earlier by resecting one lobe. Dunhill,⁽⁶⁾ who has done so much to improve the surgical treatment of this disease, deserves the credit for first pointing out the inadequacy of hemithyroidectomy, and this operation is now a thing of the past. In the six other cases I had previously removed a "single lump" under the erroneous belief that this step would cure the

condition. The remaining fifteen patients had been operated upon by other surgeons. In seven of these hemithyroidectomy had been done, and I must confess that I dislike being confronted by this state of affairs, because it is usually impossible to obtain precise information concerning the amount of thyroid tissue which was left *in situ* on the side already operated upon. In two cases it appeared that the removal of the lobe had been almost complete, inasmuch as signs of hypoparathyroidism developed after resection of the other lobe, although the usual amount of thyroid tissue was preserved; and in another two patients it was obvious that the hemiresection had been incomplete, because regeneration occurred on this side at a later date. Naturally enough, both patients selected a third surgeon to resect the regenerated tissue. In the remaining eight cases a subtotal resection of a sort had been done, but the isthmus had been left *in situ*, and the patients had never been really well after what had obviously been an incomplete removal.

With the exception of these patients and of eleven patients early in the series, who had been subjected to a two-stage resection, all the patients were treated by a one-stage resection of the gland, a small portion only of thyroid tissue being left over each recurrent laryngeal nerve; and it must be emphasized that nothing short of this can be considered adequate operative treatment for toxic goitre.

Review of Complications and Results.

Having given this résumé of the clinical classification and treatment of the 450 patients who provide the material for this paper, I shall now discuss the mortality of the series, and such incidence of special complications as cardiac arrhythmias, congestive failure, glycosuria, severe exophthalmos, mental disturbances and post-operative troubles. I shall then refer to the results of treatment of toxic goitre in males, and shall conclude with a review of the end-results in the 208 patients who were operated upon more than four years ago.

Mortality.

There were three operative fatalities in 450 cases, a mortality rate of 0.6%. Two deaths occurred early in the series, the patients being females, aged forty-eight and fifty-two years, upon whom I had performed hemithyroidectomy eight and two years previously respectively. Both had been given iodine for prolonged periods, and had been subjected to severe and long-continued toxæmia, and both died as a result of a post-operative crisis, which is attributable, I believe, mainly to my lack of skill in performing a difficult resection of the other lobe in each case. After these two deaths I was lucky enough to have a series of 368 consecutive cases without operative mortality. The details of the third fatal case are as follows.

CASE 387.—The patient was a female, aged sixty-five years, an emaciated wreck weighing 31.5 kilograms (five

stone), half her normal weight. She had suffered from exophthalmic goitre for many years and, despite the fact that her brother, who is included in this series, had been cured by operation, had steadfastly refused similar treatment until she realized that she was at the end of her tether. She had pronounced exophthalmos, established auricular fibrillation, and all the cardinal signs of the disease. After two weeks' preoperative preparation her ventricular rate had fallen to 96, and a subtotal resection was done. She stood the operation well, but developed an acute post-operative crisis on the following day and died thirty-six hours after operation.

This death must be attributed to lack of care in the preoperative preparation, as more time should have been devoted to an attempt to improve the general condition of the patient. The fact that three other aged patients, equally wasted, had recovered after operation made me somewhat careless in this instance.

No account of mortality is complete which omits reference to any fatal case, whether preoperative or post-operative. Two patients died within two months of the time of operation. The first of these suffered from established auricular fibrillation and, as a spontaneous switch to a normal rhythm did not occur after complete recovery from the operation, quinidine was administered four weeks later. Twenty-four hours after a normal rhythm had been restored by this drug she suddenly died. The second patient suffered from a depression psychosis, which was not improved by thyroid resection, and she committed suicide by swallowing six tablets of perchloride of mercury while still in hospital six weeks after operation. In addition to these two patients there were two who died in a thyroid crisis before operation could be performed. In this connexion it is proper to mention that three other patients, also admitted to hospital in a state of crisis, weathered the storm and were later subjected to successful operative treatment. There were thus seven deaths, operative and otherwise, in this series, a mortality rate of 1.5%.

During the same period there were seven operative deaths in a series of 209 operations for this disease performed by me in the Royal Melbourne Hospital, a mortality rate of 2.9%, a fact which demonstrates that, as the surgeon and anaesthetist were identical in each group of cases, the conditions at present existing in a hospital in which clinical training is given are not ideal for the treatment of toxic goitre.

Cardiac Arrhythmias.

I approach the consideration of cardiac arrhythmias with diffidence and without any desire to be dogmatic, because it is my practice to seek the aid of a medical colleague, usually Dr. Hume Turnbull, in difficult cases in which cardiac arrhythmia is present. Auricular fibrillation is not uncommon in toxic goitre and may occur as a transient event during a post-operative exacerbation, or in paroxysmal attacks, or as an established arrhythmia, before operation. It is more common in older patients, some of whom may exhibit signs of an associated

cardio-vascular degeneration, which may make an accurate prognosis difficult. The incidence of these various types is shown in Table II.

TABLE II.
Incidence of Auricular Fibrillation.

Clinical Type.	Number of Cases.	Percentage.
Transient post-operative fibrillation ..	45	10
Paroxysmal fibrillation before operation ..	19	4
Established fibrillation before operation ..	40	9

Transient post-operative auricular fibrillation is of little significance in itself, though it may form part of the picture of a post-operative crisis; and in all the cases in this group normal rhythm returned. Eighteen of the patients exhibiting paroxysmal auricular fibrillation were free of these attacks after operation, the exception being a female, aged sixty years, in whom thyrotoxicosis was associated with cardio-vascular degeneration, the systolic blood pressure reading being 200 and the diastolic pressure 120 millimetres of mercury; she died of pneumonia one year after operation. The routine treatment of patients with established auricular fibrillation was subtotal resection after appropriate preparation, which might involve the control of congestive failure; the hope was that a spontaneous switch to a normal rhythm would occur. Nothing is more comfortable from the point of view of the patient than this switch to a normal rhythm, which brings a dramatic feeling of relief. If this fails to occur after the lapse of fourteen days, it has been my practice to seek advice in regard to the administration of quinidine, a drug which appears to be more dangerous in thyroid disorders than in any other conditions associated with auricular fibrillation. The results are shown in Table III, in which will also be found a summary of the conditions in which it was thought inadvisable to give quinidine.

TABLE III.
Results in Cases of Established Auricular Fibrillation.

Condition.	Number of Patients.
Spontaneous switch to normal rhythm—	
(a) Within fourteen days	15
(b) At a later time (three months and one year) ..	2
Switch to a normal rhythm after administration of quinidine	7
Relapse to auricular fibrillation after restoration of normal rhythm by quinidine	2
Failure to obtain switch to normal by the use of quinidine ..	2
Sudden death after switch to normal following the use of quinidine	1
Quinidine considered inadvisable owing to:	
(a) Previous occurrence of cerebral embolus	2
(b) Associated organic heart disease	6
(c) Advanced age, slow ventricular rate and long-continued arrhythmia	2
Death in post-operative crisis	1
Total	40

I do not wish to labour the question of auricular fibrillation; for this occurs commonly in conditions other than thyrotoxicosis and forms the subject of

numerous contributions to medical literature; but patients are usually aware of this arrhythmia and inquire concerning the probability of its disappearance after operation. The position in this respect seems to me to be that, in the absence of associated cardio-vascular degeneration, signs of cerebral embolism, advanced age or long-continued arrhythmia, there is approximately an 80% chance of restoration of a normal rhythm, either spontaneously or after the use of quinidine. In many of the cases in which this arrhythmia persists, the patients can carry on satisfactorily under medical treatment; but I do not think that the results in such cases should be described as satisfactory.

Auricular flutter is much less common than auricular fibrillation in toxic goitre; and in this series there were only three cases of this type, confirmed by electrocardiography, though it is probable that a transient flutter occurred in some other cases. In two cases the flutter was associated with congestive cardiac failure. In one of these, in which the patient is a male, the flutter has been replaced by a normal rhythm; while in the other two, in which the patients are females, operated upon four and five years ago respectively, this arrhythmia has persisted and the rapid heart action is a source of concern to the patients, though both have been cured of the thyrotoxicosis and are able to perform their household duties.

Congestive Cardiac Failure.

Congestive failure, as evidenced by the usual signs of oedema, enlargement of the liver and moist sounds at the bases of the lungs, was present in 20 patients, those exhibiting merely some swelling of the feet being excluded from this classification. Prior to operation the congestive failure was controlled by the administration, under medical supervision, of digitalis and diuretics, in addition to the routine preoperative preparation common to all cases of thyrotoxicosis. All but four of the patients exhibited cardiac arrhythmias, auricular fibrillation being present in fourteen and auricular flutter in two. There were no operative deaths in this group, which, with one exception, a woman, aged thirty-one years, included only older patients, the average age being fifty-four years.

According to the post-operative history these patients may be divided into two groups, namely, those who are dead or disabled and those who have apparently completely recovered. In the former group are included five cases in which advanced organic heart disease was associated with thyrotoxicosis and three cases in which auricular fibrillation persisted after operation. Four patients, two with associated organic heart disease and two with persistent fibrillation without evident organic disease other than thyrotoxicosis, have died between one and three years after operation. The remaining patients, though limited in their activities, have been able to carry on so far under medical treatment. It may be questioned whether operative treatment in such cases is worth while,

Though each case of this type must be considered on its merits, I have no doubt that it is well worth while to remove the element of thyrotoxicosis even if the progress of the associated organic disease or the persistent arrhythmia leads to a relapse to congestive cardiac failure later on. In many patients the burden of thyrotoxicosis, when superimposed upon that due to organic heart disease, may be very great and the relief which follows the removal of this extra load fully justifies the operation.

Twelve patients have apparently completely recovered from congestive failure, though one of these is worried by a persistent auricular flutter, and another must be excluded, as she died from hemorrhage from a gastric ulcer one year after the thyroid operation. In point of fact, the recovery in some of these cases seems little short of miraculous, as is shown by the following examples.

CASE 299.—A female, aged forty-two years, had known that she had a goitre for thirty-two years. Toxic signs were first observed thirteen years before I saw her and had gradually increased in severity. Congestive heart failure had been present for six months, and on her admission to hospital there was general anasarca, the ascites being so marked that the umbilicus was pushed forwards. There was established auricular fibrillation. After three weeks' preparation with digitalis and diuretics, directed by Dr. Hume Turnbull, a subtotal thyroid resection was performed. Two weeks later a switch to normal rhythm was achieved by the use of quinidine. For three years since operation this patient has been able to do all the work which falls to the lot of the wife of a small dairy farmer.

CASE 146.—The patient was a male, aged fifty-one years, who had suffered from frequent mild attacks of heart failure during the previous seven years and had been treated by several doctors. He then consulted Dr. J. R. Williams, who noticed that, in addition to the congestive failure, there were some tremor, a history of loss of weight, and a rapid though weak and regular pulse. The thyroid was palpable, but not visible. Iodine, used diagnostically, produced an improvement in the condition. For six years, since a subtotal resection, the patient, who is a printer in a large newspaper office, has not lost a day from work, and states that he does more than any of his colleagues. This is a case of interest, not only from the point of view of recovery after congestive failure, but also as an example of "masked thyrotoxicosis".

The conclusion to be drawn from these cases is that operative treatment, after appropriate preparation, is strongly indicated in congestive failure due to thyrotoxicosis.

Glycosuria.

Glycosuria was a prominent feature in twenty cases in this series, and in many others it was observed in a mild and transient form. It is not always possible before operation to determine whether true diabetes is present, as the sugar tolerance curve in pure thyrotoxicosis may approximate to that found in diabetes. Four of these patients proved after operation to have true *diabetes mellitus*, but all were improved by the thyroid resection. In one case the administration of 40 units of insulin three times a day was necessary, whereas after operation adequate control was achieved by dietetic restrictions alone. This improvement may not be fully manifested until some time has elapsed

after operation. The glycosuria disappeared in the remaining sixteen cases and the sugar tolerance curve returned to normal. There is no doubt that operation is followed by good results in cases complicated by glycosuria.

Exophthalmos.

Stare or exophthalmos was noted in 217 cases, 48% of the total number. The initial stare, as Professor F. Wood Jones pointed out to me, is due to the contraction of the Müller's muscle described by Continental anatomists, which consists of unstriated fibres in the substance of the *levator palpebræ superioris* muscle, rather than the Müller's muscle which is described in our text-books of anatomy. The cause of the exophthalmos is unknown; but in long-standing cases structural changes have been observed in the orbit, notably an enlargement of the external ocular muscles to many times their normal size. It follows that the outlook after operation in regard to the disappearance of the exophthalmos is uncertain. Cattell⁽⁷⁾ investigated 4,214 patients operated upon at the Lahey Clinic and found that only 50% were relieved of their exophthalmos, while an additional 13% were improved. My own experience coincides with



FIGURE II.

Severe exophthalmos, with loss of right eye.

his, and I agree with him that the chance of relief from this deformity diminishes in direct proportion to the time it has been present. Exophthalmos is therefore best treated by early operation.

All patients suffering from severe exophthalmos should be carefully observed during sleep, in order

to ascertain whether the lids are closed. The dangers of corneal ulceration from failure of closure are well known, and it is essential that steps should be taken to avert a calamity to the eye before thyroid resection is performed. Simple suture of the lids is not satisfactory because in the first place the sutures tend to tear out, and in the second place the emotional disturbance is increased by the loss of vision. This difficulty was overcome in four cases in this series by Dr. A. S. Anderson, who performed a plastic operation under local anaesthesia in such a manner that firm union between the outer half of each upper and lower lid was achieved, thus narrowing the palpebral fissure and enabling the patients to close the lids while preserving the faculty of vision through the ununited inner portion of the fissure. In an early case in this series, in which this treatment was not used, one eye was lost six months after operation (Figure II), a calamity which might have been averted by an orbital decompression operation. In another case (Figures III and IV) a plastic operation on the lids was necessary owing to pronounced myasthenia of the facial musculature, which prevented adequate closure, but has decreased since operation. The exophthalmos may be unilateral, a condition observed in a recent case not included in this series (Figure V). One patient suffering from exophthalmos exhibited also the rare complication of paralysis of one external ocular muscle.



FIGURE III.
Myasthenia of facial musculature complicating exophthalmic goitre. The patient is endeavouring to close her eyes.



FIGURE IV.
The same patient as shown in Figure III after a plastic operation to unite the outer half of each upper and lower eyelid had been performed. The myasthenia improved after resection of the thyroid gland.

Mental Disturbances.

Severe psychoses were observed before operation in four cases. One patient suffering from psychosis committed suicide six weeks after operation, and another became worse after operative treatment and is now in a mental asylum. The third patient did not improve at all, and the fourth, who is handicapped by an unhappy home environment, is still profoundly psychasthenic, though there was

some improvement for a time after operation. I therefore feel that a guarded prognosis should be given before operation in thyreotoxic cases with this complication.

Some mental confusion was observed in two cases during convalescence; but both patients recovered completely.



FIGURE V.
Unilateral exophthalmos.

Post-Operative Complications.

Hitherto, with the exception of the section on operative mortality, I have dealt with complications, present before operation, which, to a greater or less degree, loaded the dice against the prospect of a favourable outcome. I must now deal with post-operative complications, for which, obviously, I must accept the responsibility. The incidence of these complications is set out in Table IV. The term "post-operative crisis" in this table has been confined to those cases in which the exacerbation after operation was so severe that I feared that the patient might die. This complication has been greatly diminished by the introduction of iodine therapy and, when it occurs, is usually attributable

TABLE IV.
Post-operative Complications.

Type of Complication.	Number of Cases.	Deaths.	Percentage Incidence.
Post-operative crisis	10	3	2:2
Post-operative hemorrhage	1	—	0:2
Post-operative infection	8	—	1:8
Permanent unilateral vocal cord palsy ..	4	—	0:8
Post-operative pneumonia	4	—	0:8
Post-operative parathyroid deficiency ..	5	—	1:1

to errors of judgement in preoperative treatment or in selection of the optimum time for operation, though it may also follow unskilful operative handling of a difficult case.

Post-operative hæmorrhage can usually be avoided by testing the efficiency of the hæmostasis by making the patient cough or vomit before the wound is closed. I use fine silk ligatures for tying vessels because these are more efficient in achieving hæmostasis, though occasionally trouble is caused by the subsequent discharge of the ligatures through the wound. The cases in which this has happened have been classified as post-operative infection in the above table.

I have so far been fortunate enough to avoid the serious complication of a bilateral vocal cord palsy, which commonly necessitates the performance of tracheotomy. Permanent unilateral cord palsy is not usually very distressing to the patient. A transient paralysis of a vocal cord is sometimes observed after operation and is due to traction on the recurrent laryngeal nerve during delivery of the gland. Injury to the superior laryngeal nerve may occur; this gives rise to discomfort, as, owing to a lack of sensation in the larynx, the food tends to "go the wrong way". I have noticed that many patients have been unable to sing properly for some months after a thyroid resection, though there was no obvious interference with cord movements. The pulmonary complications were confined to patients who had a temporary or permanent vocal cord palsy; doubtless they were attributable to inability to expel the bronchial secretion properly by coughing.

The cases in which parathyroid deficiency was observed were all controlled satisfactorily by the continued administration of calcium and vitamin D, although in three cases the signs were particularly severe. The chief inconvenience from the point of view of the patient, once control is established, is the necessity for strict adherence to this régime of treatment.

It will be noted that these post-operative complications, though distressing to the patient and though representing "bad marks" against the surgeon, do not for the most part militate against the resumption of economic usefulness.

Toxic Goitre in Males.

There were 62 males in this series, 13.7% of the total number, being a ratio to females of approximately 1:7. The chief sex differences were a much greater incidence of cardiac arrhythmias in males, no fewer than 51 exhibiting auricular fibrillation either before or after operation, and one suffering from auricular flutter, and a definite tendency in males towards higher basal metabolic rates, one male giving a result of +100. As a general rule, the severity of the signs and symptoms was more pronounced in the males, which is probably due more to the fact that men must work to support themselves and their families and are therefore reluctant to seek medical advice until compelled to do so, than to a special sex difference in the disease.

The more strenuous nature of their occupations, from the point of view both of physical effort and of mental strain, makes a study of the functional results in males particularly interesting. These are remarkably satisfactory, inasmuch as 55 of the 62 patients have been able to resume and carry on their full activities unhampered by results of the thyrotoxicosis. A summary of these different activities may be of interest. Seventeen have returned to heavy work as farmers or orchardists; one of these, his doctor informs me, recently spent four arduous hours extricating a cow from a bog without undue distress. Three are engaged in general medical practice, one is a dentist and another a school-teacher. Nine are tradesmen of various types and another is a wharfinger. Twenty-three, with the exception of one who was accidentally killed some years after operation, have resumed and continued clerical or administrative work of a commercial nature.

The results in the remaining seven cases were not so satisfactory. One patient, who had recovered from thyroid resection, died two months later after removal of the rectum for carcinoma. Another, suffering from established auricular fibrillation, is incapacitated by hemiplegia due to embolism, and one, also suffering from established fibrillation, has some cardiac inadequacy. One patient has hyperpiesis associated with mild hypoparathyroidism, another has mild residual thyrotoxicosis, and the sixth is suffering from an anxiety neurosis associated with persistent tinnitus. The seventh patient, though cured of thyrotoxicosis, appears to be a true diabetic. For these various reasons restoration to full economic usefulness has not been achieved.

End-Results.

The figures in the foregoing portion of this paper have been drawn from the whole series of 450 patients; but, as has been explained, this section, which deals with late end-results, will be confined to a consideration of this aspect of the subject based on a study of 208 patients who were subjected to operation more than four years ago. I have also explained that the series is consecutive and unselected and that all but four patients have been traced. The results are summarized in Table V.

It must be remembered, when studying the end-results of a series of cases of severe toxic goitre, that there are always some patients who have no prospect of complete recovery, owing to the severity of the damage wrought by the disease or to the presence of associated degenerative processes. In view of this it seems justifiable to assume that a restoration to full economic activity of 85.7% of the total number of patients, none of whom were able to work prior to operation, is reasonably satisfactory. This impression would be strengthened if it were possible for me to quote all the histories in full; for it would then be obvious that in many cases the recovery was remarkable. I cannot, of course, do this; but, mindful of the fact that my

TABLE V.

Late End-Results of Resection of the Thyroid.

Result.	Remarks on Patient's Condition.	Number.	Total.	Percentage.
Complete restoration of economic usefulness.	(i) Perfectly well without qualification	133	174	85.7
	(ii) Hypothyroidic, but completely controlled by thyroid therapy	21		
	(iii) Perfectly well until the onset of another disease	9		
	(iv) Perfectly well until death from another cause	3		
	(v) Recurrent thyrotoxicosis, cured by treatment	6		
	(vi) Hypoparathyroidism, completely controlled by treatment	2		
Partial restoration of economic usefulness.	(i) Able to do some work, but tiring easily (hypothyroidic and mixed types)	7	17	8.3
	(ii) Improved, but incapacitated in varying degrees by associated organic cardio-vascular disease	4		
	(iii) Incapacitated by cerebral embolism	1		
	(iv) Loss of one eye from extreme exophthalmos	1		
	(v) Partial incapacity from worry over persistent arrhythmia	4		
Unsatisfactory results.	(i) Died after operation	2	11	5.8
	(ii) Mental disturbance; suicide	1		
	(iii) Died suddenly after administration of quinidine	1		
	(iv) Died more than one year after operation due to effect of thyroid toxæmia or associated cardio-vascular disease	3		
	(v) Suffering from persistent or recurrent thyrotoxicosis, untreated or unsuccessfully treated	2		
	(vi) Incapacitated owing to persistent psychasthenic symptoms	2		
Not classified	(i) Died from another cause too soon after thyroid operation to permit of estimate of its result	2	2	0.9

successes might have been anybody's, whereas my failures are peculiarly my own, I must refer in some detail to the less satisfactory results, beginning with two group of cases, namely, those in which I failed to remove enough thyroid tissue and those in which I removed too much.

In two of the early cases, in which a two-stage resection of the gland was carried out, the isthmus and pyramidal lobe were left *in situ*; these remnants subsequently enlarged, causing persistence of the signs of thyrotoxicosis. One patient, who suffered also from pulmonary tuberculosis, died five years later of heart failure without having undergone further operation; but the other patient was cured by the removal of this regenerating thyroid tissue. It may be difficult in a two-stage operation to be certain of complete removal of this part of the gland.

In seven cases, in which a one-stage subtotal resection had been performed, after a period of apparent cure of one to three years the small portions left over each recurrent laryngeal nerve enlarged and a return of toxic signs was observed. In cases of this type deep X ray therapy is undoubtedly of value, and its use was followed by cure in five of the six cases in which it was given. The seventh case illustrates the remarkable regeneration which is sometimes observed in toxic goitre.

CASE 173.—A female, aged thirty-eight years, had exhibited all the cardinal signs of an exophthalmic goitre for three and a half years. Injections of iodine into the gland had been given without improvement. An enormous goitre (Figure VI) was removed in November, 1931. A portion the size of a shelled walnut was left over each recurrent laryngeal nerve. The patient was very subthyroidic for two years. She became pregnant in 1933 and was safely delivered of a healthy child. The subthyroidism disappeared during pregnancy. In 1934

there was a return of thyrotoxicosis together with enlargement of the left portion of the gland almost to its original size. In 1935 this regenerated area was removed. The immediate result was satisfactory; but there has since been further enlargement on both sides. The patient is controlled at present by iodine, but will probably require further treatment.



FIGURE VI.

Gland removed in Case 173. (Scale in inches.)

It was thought that the extent of the regeneration in this case indicated that surgical rather than X ray treatment was advisable. This is the only case in the whole series in which total thyroidectomy would have probably been the best initial procedure.

The fear of hypothyroidism has been an unnecessary bugbear in thyroid surgery, and it should be remembered that it is preferable to remove too much than too little. At the same time it is desirable to strike the happy medium in the amount of thyroid tissue left at operation. Though there were twenty-

one patients adequately controlled by thyroid therapy there were an additional seven who were unhappy. Four of these were merely suffering from insufficient dosage of thyroid extract; but there were three fat, unhappy, sluggish women whose condition could not be stabilized and in whom there seemed to be a mixture of various ductless gland deficiencies. More elaborate discussion of this type of case would, however, lead me into flights of fancy which, in this plain statement of facts, I have intentionally avoided.

It will be noted in Table V that unsatisfactory results in another group of patients were due to associated organic cardio-vascular degeneration. It is frequently impossible to estimate the extent or importance of this complication until the thyrotoxicosis has been eliminated by operation; but it has been my experience that those patients in whom severe hyperpiesis was observed before operation did not show any improvement in so far as this condition was concerned after resection of the thyroid gland. The conditions responsible for the other unsatisfactory results enumerated in this table have already been discussed and do not require further comment.

I have mentioned the fact that one patient died after an operation for removal of the rectum performed two months after a successful subtotal thyroid resection, and have quoted a case in which regeneration of the gland occurred following pregnancy. It is therefore advisable to state that eleven other patients recovered from subsequent major operative procedures, that three pregnant women were operated upon without harm and that fifteen others were safely delivered of children after operative cure of toxic goitre. The term "complete restoration of economic usefulness" is obviously applicable to this last group of fifteen women.

Conclusion.

I am aware that this review suffers from the disadvantage that it is a personally conducted audit of my own cases, and that the figures on the whole are better than those reported by my colleague Keith Fairley,⁽⁵⁾ who investigated 353 patients who had been operated upon in the Royal Melbourne Hospital during the ten-year period from 1922 to 1931. This is doubtless due to the fact that my patients were confined to the "post-iodine" period of treatment and were operated upon under better conditions than those existing in a general hospital; for I have endeavoured to avoid the temptation of failing to emphasize the unsatisfactory results. I have in point of fact erred in the other direction; for a little leniency in interpretation of results would have shown a rehabilitation rate of 90%. A study of these two papers will justify the statement that, in the present state of our knowledge, operative treatment offers by far the best prospect of cure in this disease, providing that this operative treatment consists in nothing less than a subtotal resection of the gland.

Lister, by "freeing the hand of the surgeon", has made this operative treatment possible. Let us hope for the advent of a medical Lister who will make it unnecessary.

Summary.

1. This paper comprises a study of 450 consecutive unselected patients suffering from toxic goitre operated upon during the ten-year period 1927-1936, in all of whom incapacity for work was a prominent feature. The late results after surgical treatment have been studied in 208 cases, in which operation was performed more than four years ago.

2. Methods of classification and difficulties in diagnosis are discussed.

3. The operative treatment consisted in a one-stage subtotal thyroidectomy, necessarily modified in a few of the cases in which a former operation on the thyroid gland had been performed.

4. Reference is made to the improper use of iodine therapy, the futility of the removal of areas of supposed focal sepsis, and the indication for X ray therapy.

5. The operative mortality was 0.6%.

6. An account is given of the incidence and significance of cardiac arrhythmias, congestive failure, glycosuria, exophthalmos and mental disturbances.

7. Post-operative complications, attributable to surgical errors, are described.

8. The incidence of toxic goitre in males is given, and special reference is made to the restoration of complete efficiency to these patients after operation.

9. A study of the late results after operative treatment of 208 patients reveals that a complete restoration of economic usefulness was obtained in 85.7% and partial restoration in 8.3%, while the end-results were unsatisfactory for various reasons in 5.8%.

Acknowledgements.

I must express my thanks to many of my colleagues, notably Dr. Hume Turnbull and Dr. S. O. Cowen, for help in investigating these cases. I am also most grateful to my house surgeon, Dr. John Devine, for the preparation of the coloured film illustrating the technique of a subtotal resection of the thyroid gland, which was shown when this oration was delivered.

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THE DIAGNOSIS OF POLIOMYELITIS.¹

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It has been one of my duties during the Melbourne epidemic to act as consultant upon early or doubtful cases of poliomyelitis, to attempt a diagnosis, and, depending on this, to arrange a destination for the patient. There have been 488 cases in this series; and the fairly concentrated experience thus gained forms the basis for this paper.

Symptomatology.

Two distinct phases of the disease are readily recognizable in most cases; for the sake of clarity these are termed "febrile" and "paralytic". These two phases are variable in degree of severity and in actual time relationship one to the other; but this point can be stated as dogmatically as one can state anything concerned with this most elusive disease, that the paralytic phase, if it appears at all, always follows the febrile phase. A child who appears to have these two phenomena reversed, for example, an apparently weak leg causing a limp, followed after a day or so with some febrile manifestation, is probably not suffering from poliomyelitis. The reverse story is, of course, profoundly suggestive.

Six main varieties of the disease can be classified by virtue of this variability of severity and time relationship of these two phases, and they are diagrammatically represented here. All of these varieties have conferred, with very few exceptions, a lasting immunity as a result of the attack.

Group I.

Group I is largely hypothetical, but probably very important; it represents a mild, undiagnosable attack, with mere appearance of a febrile phase, and conferring a lasting immunity. It is undiagnosable even in an epidemic. It is probably wrong to give it the appellation "febrile", as in many cases there is possibly no temperature at all.

Group II.

Group II represents a variety of which most of us have had experience at some time, and which has been seen quite commonly in the Melbourne epidemic. The febrile phase is very mild, being characterized by slight headache, lassitude and

anorexia; and it is unrecognized at the time unless there happens to be a definite case in the house at about the same time. No obvious paralysis results, but when the child begins to run about actively again a slight limp, often worse at the end of the day, may appear. With very little trouble these patients do quite well; but if they are not treated the affected muscles, being more or less of a nuisance to the child, are neglected in favour of a normal muscle, which can be adapted to the required movement, and a triek movement *plus* deformity appears. Again serological immunity results.

Group III.

Group III represents abortive poliomyelitis. Again the febrile phase is mild; but it is noticeable, and with reasonable certainty the condition can be labelled poliomyelitis (in one's mind if not on official notification slips), especially if there is a sister or brother with the definite disease coincidentally in the house. There are no spinal signs, neck stiffness *et cetera*; if lumbar puncture is performed, no cells are found, and no paresis results.

Group IV.

Group IV represents Draper's "dromedary type", in which there are two distinct waves of the febrile phase, separated by an interval of two or three days, during which the child is often apparently quite well. The second wave, which is always of greater intensity than the first, is accompanied by the onset of the paralytic phase, which goes on to a greater or less degree of permanent weakness. In some cases the remission between the two humps is not quite so marked; the patient is vaguely ill for ten days or so. This represents the "straggling" type, of which quite a number of examples are seen. Incidentally, Draper was quite wrong in giving the title "dromedary" to the two-hump type, for the dromedary camel has only one hump; it is the Bactrian camel of central Asia which has two humps.

The following is a typical history of the dromedary type of poliomyelitis.

A girl, aged five and a half years, was perfectly well until seven days before I saw her, when she woke up with supraorbital and occipital headache. She was flushed and feverish, unwilling to eat and a little drowsy. That night she was slightly delirious and vomited some *oleum ricini*. Next day she was a little better, but was again feverish and drowsy, and complained of headache that evening. The following day she was much better, and for the succeeding three days she seemed to have quite recovered and went to school. On the evening before I saw her she again complained of headache and refused food, though she was not very feverish. When I saw her she was unwilling to eat and was drowsy. She twitched a little in her sleep, was a little "trembly", and complained of some pain in her back. She had no cough. Her bowels were constipated, which was usual with her, and no disturbance of micturition had occurred.

The straggling type of condition tells much the same story; but the remission is not so marked, and usually the patients do not feel quite well at any time in the preparalytic phase. The "stragglers" and the "dromedaries" are obviously very closely related symptomatically.

¹ Read in part at special meetings of the Victorian Branch of the British Medical Association at Melbourne on July 29 and December 15, 1937; read in full at a special meeting of the South Australian Branch of the British Medical Association at Adelaide on January 13, 1938; read at the request of the New South Wales Permanent Post-Graduate Committee at Sydney on April 3, 1938; and read at the request of the Western District Medical Association at Orange, New South Wales, on April 10, 1938.

Group V.

Group V indicates the ordinary acute case which forms the majority of those we are seeing in this epidemic.

The following is a typical history of this type.

A girl, aged twelve years, was perfectly well till the afternoon of the day before I saw her, when she complained of intermittent right temporal and frontal headache and of severe pain in the back of the neck. She felt nauseated. She was very feverish that night and sweated profusely. She felt that she wanted to sleep but could not. Her mother noticed that her limbs were occasionally "jumping" while she was sleeping. She woke on the following morning feeling a little better, but her head still ached, her neck was still painful, she had vomited once and her voice was a little husky and weak. Her hands were a little trembly also.

Examination revealed a temperature of 38° C. (101° F.), a pulse rate of 140 and a significant respiration rate of 30 to the minute. The spinal group of signs were all present. Movement of both sides of the chest was diminished, the right more than the left. A pronounced tremor was present.

This child went into the respirator within forty-eight hours of the onset.

Group VI.

Group VI represents a considerably rarer type than either Group IV or Group V. It is called, probably rather artificially, non-paralytic poliomyelitis. Its febrile phase is quite acute, and differs in no way in symptoms and signs from the ordinary acute paralytic form, with the important exception that at no time, early or late, can any evidence of paralytic phenomena be observed. There are cells in the cerebro-spinal fluid of these patients, and they probably represent a borderline at which the virus dosage or virulence is just not equal to the patient's ability to circumvent its attack. This also applies, but more so, to Groups I and III. Groups II, IV and V show the balance creeping in the reverse direction, the virus being triumphant to a greater or less degree.

The Symptoms.

In early diagnosis the symptoms volunteered are those of the febrile phase; in late diagnosis they are of paralytic nature as a rule. The case histories just quoted are quite typical examples and serve to illustrate the time relation of the various symptoms. Fever, drowsiness, frontal headache, nausea with or without vomiting, anorexia, are a batch of early symptoms which appear almost synchronously, to be followed after an interval varying from a few hours to several days by pain in the neck or back, or both, pain in the abdomen, tremor, jactitations, muscle pains and hyperæsthesia.

Various paralytic phenomena may present themselves as symptoms quite early, and may manifest themselves as, for example, a facial weakness, a squint, diplopia with or without squint, nasal or croaky, weak voice with inability to cough properly, difficulty in swallowing or breathing, difficulty with micturition, and, of course, involvement of a limb group. Throughout this early period, constipation or normal bowel activity, and not diarrhoea, is the rule. Before discussing these symptoms in greater

detail I wish to make one point very clear: that there is no single symptom or sign in this disease which is present in 100% of cases; even our old standby neck stiffness is sometimes absent from an undoubted case of acute poliomyelitis. It is this variability in the clinical syndrome that makes consistently correct diagnosis so difficult.

I shall discuss these symptoms in greater detail.

Fever.—Fever is probably about the most uniformly present of all the findings in cases in which enough symptoms are present to cause parents to call the medical adviser. It probably occurs in most of the subclinical and true abortive cases, but one cannot be really sure of that. I know of several cases in which, both prior to and during a stay in hospital, no rise in temperature occurred. Such cases are excessively rare; and the broad generalization does hold that "no temperature means no poliomyelitis", provided that the temperature is taken several times to be certain, and certainly once in the evening. I am, of course, referring to recent cases. The temperature in the ordinary acute cases rises rapidly within twelve to twenty-four hours to 38-35° or 39-45° C. (101° or 103° F.), stays up for two or three days, then commences to fall by lysis. It is usually down to normal by the fifth to the eighth day. The evening temperature is higher than morning temperature, and a reversal of this usually means another diagnosis.

Drowsiness.—Drowsiness as a symptom has been slightly less constant than fever, and it is of a particular type. The parent will volunteer this symptom quite definitely; but upon the arrival of the doctor to conduct an examination, all drowsiness goes and the child is alert, lucid and cooperative. It is necessarily an observation of the mother rather than of the doctor; frequently she will say: "As soon as you go, doctor, he will roll over and go to sleep again." Some older patients, better able to describe their sensations, say that, though they badly want to go to sleep, they are unable to do so.

A very striking example of the lucidity of these patients in the face of apparent stupor occurred recently. The patient was a youth, aged nineteen years, with severe bulbar involvement, severely cyanosed, and suffering from bilateral facial palsy and pharyngeal paralysis; he died a few hours later. He was lying on his side, obviously in *extremis*, while I was taking the history from the mother. She had just said that he first complained of headache "last Monday", when from the depths of the bed came a barely intelligible, guttural, mucus-laden voice, saying: "No it wasn't; mother, it was Tuesday." They were very nearly the last words he spoke, and they were correct; it was Tuesday.

There have been three patients in my series who, at the time of examination, were so stuporose as to be unable to answer questions. This mental clouding is quite rare, and when it does occur it adds greatly to the difficulties of diagnosis. The condition then simulates closely the various types of meningitis from which, without lumbar puncture and observation, it is indistinguishable. Mild delirium at night is relatively common in patients with a brisk fever.

Headache.—The sudden onset of headache, fever and drowsiness in a perfectly well child is very common and very suggestive. The headache is most commonly frontal or supraorbital; occasionally it is vertical. It is very often intermittent; the child will be crying with it at one time and half an hour later will say that it is gone. Complete absence of headache is unusual, but not unknown.

Nausea and Vomiting.—Nausea and vomiting are very common, and a history of their occurrence at some time can usually be obtained. Vomiting occurs only once or twice, but on rare occasions it has recurred five or six times—extremely rarely, let it be noted, with diarrhoea. This statement will be amplified later. Children, of course, vomit readily in many febrile disturbances, particularly if they have been given castor oil; and as a diagnostic symptom vomiting has no great value.

Anorexia.—Anorexia is a very common symptom; but, of course, it is a common feature of all the acute fevers of childhood, and has obvious diagnostic limitations. It is rare, however, to find a good appetite, except when the acute stage is subsiding.

Sore Throat.—Sore throat has been mentioned as an early symptom in quite a number of cases; a general engorgement is all that is usually found, however. Actual tonsillar exudate as a rule means that tonsillitis is the correct diagnosis, unless the element of coincidence is exercising its tantalizing influence.

Pain in the Back of the Neck and in the Back.—Pain in the back of the neck and in the back is probably the most suspicious symptom that can be volunteered; and it is much more important from a diagnostic viewpoint to have its presence volunteered than to have to ask for it. Either neck or back pain, or both, is present at some stage of the illness in about 80% of the clinical cases; it is even discoverable on questioning in many contacts (brothers and sisters of undoubted victims), to whom no doctor has been called. Such persons are suffering from the subclinical abortive type of the disease. Frequently neck and back pain is elicited only when neck or spine stiffness is being tested for. Some children know that this is a symptom of the "paralysis" and simply will not admit to its presence. The back pain is usually in the lower thoracic region, but is sometimes low lumbar in site.

What type of pain is the neck and back pain? Most of the older patients describe it as a dull ache, which is not particularly severe unless they attempt to flex the vertebral axis at any point. One intelligent boy likened it to the feeling obtained when a gradually increasing current from a magneto was sent through the hands and arms. The important point is that there is not the very acute, sharp, lancinating pain, accompanied by grimacing and bracing of the whole body, which is seen in acute fibrositis, such as lumbago. Also there is almost complete absence of localized tender points in poliomyelitis in its early stages; there may be some slight tenderness to firm palpation, but this is

nothing like the tenderness of fibrositis or panniculitis. The reason is, of course, fairly obvious. The pain of poliomyelitis is referred pain; that of the fibrositic conditions is local, and has its corresponding tenderness. An interesting example of pain in the neck and back, accompanied by neck and spine stiffness without local tenderness, was given by the patients with spontaneous subarachnoid hæmorrhage, with thecas tense with bloody cerebral fluid. Here the type of neck stiffness was identical with that seen in poliomyelitis, and was probably due to a similar cause, namely, posterior root irritation. I have discussed this symptom in some detail, because it is one which in the public mind at the moment is practically synonymous with the diagnosis of poliomyelitis. This is not always true; there are other causes, the diagnosis of which I shall mention later.

Abdominal Pain.—Abdominal pain is mentioned quite frequently, probably in about 30% of the cases. Just what it is caused by seems obscure. There is very little tenderness, and it again may well be a referred pain, in the same way that early tuberculous lesions of the spine may cause abdominal symptoms.

Muscle Pain and Hyperæsthesia.—Muscle pain and hyperæsthesia are not nearly so common as might be expected. Particularly is this true of hyperæsthesia. The muscle pain is accompanied by surprisingly little tenderness; severe localized tenderness always carries with it the possibility of another diagnosis. I am referring, of course, to early cases. Some patients, after lying for many days, do suffer from stiff, painful and tender muscles. Particularly severely is this seen in the respirator cases; but these are secondary phenomena, and occur in many acute febrile illnesses necessitating a prolonged bedridden state.

Tremor and Jactitation.—Tremor is an interesting symptom. It is very different from the fine tremor of early pneumonia or other acute febrile disturbances of childhood. This latter type may be called a "febrile tremor", and is not usually commented upon by the parent. The tremor of poliomyelitis has a definite neurological cause; it is of the intention type, and is most pronounced in purposive movements, exactly as in disseminated sclerosis. The finger-nose-finger test used in the latter disease is equally applicable here, and shows the tremor well. It is probably the fact that it is most seen in voluntary movements that causes the parent to comment on it. One often hears the story: "He was so trembly this morning that when I handed him a glass of water he dropped it." When one receives a history like that the condition can almost be diagnosed over the telephone as poliomyelitis. It is almost a true "diagnostic" symptom, but, like all other points in regard to this disease, it is not always present. It is even intermittent at times; it may be definitely present at 8 a.m., absent at noon, and present again during the afternoon. Jactitation, that is, a single coarse spasm of a limb or of the whole body, occurs fairly commonly.

usually during sleep, and particularly in patients with tremor.

Disturbance of Micturition and Defecation.—When any abnormality of micturition is noticed by the parents, they usually mention one of two things: that there was some difficulty in starting the act, or that "he has not passed water for twenty-four or thirty-six hours". In the latter case a very full, painless bladder is found on examination. Very often when urine is passed the bladder is not completely emptied and is demonstrable by percussion; a hot bath often enables the act to be completed. One of the most constant findings is constipation, usually of mild degree, occasionally severe. Diarrhoea, whilst described in many text-books, cannot be regarded as a symptom in this epidemic; it forms one of the "negative" symptoms, and its presence usually indicates another diagnosis. A few cases have occurred in which diarrhoea was present; in some it was due to administered purgatives, but unhesitatingly it is a rare finding. Constipation is common, normal bowel actions are common, diarrhoea is excessively rare.

Photophobia.—Photophobia is quite a rare symptom, and has been present in about 1% of my cases.

Paralytic Symptoms.—Paralytic phenomena mentioned as symptoms are usually those of a limb or trunk, "He could not sit up this morning" being a frequent expression. Such symptoms are, of course, practically diagnostic; but again, every apparently weak limb is not necessarily weak on account of anterior horn involvement.

Vocal Symptoms.—A word must be said concerning what may be termed "vocal" symptoms. First there is the nasal voice, with or without nasal regurgitation on swallowing. This change of voice may be noticed by the parents. Often, however, the doctor first points it out to the parents, who then remark that "they did notice something funny about it". Then there is the croaky, husky, weak voice of laryngeal involvement. This is very rarely commented upon by the parents; they regard it as due to "weakness". It is an important observation, because when it is present cough is apt to be bovine and resultless; and this, combined as it often is with pharyngeal weakness (the centres being very intimately related in the medulla) causes the dangerous cycle of inability to swallow either saliva or food, inhalation, and inability to cough out the foreign matter from the trachea.

Squint and Diplopia.—Squint and diplopia are surprisingly uncommon symptoms. They have occurred in only 2% of my cases. It is probable, of course, that diplopia occurs much more often, but the children do not mention it. A mild facial weakness is very common; a severe unilateral or bilateral facial paralysis occurs quite often in the severe cases. There was one case in my series in which bilateral exophthalmos was the prominent finding.

Epistaxis.—Epistaxis has occasionally appeared during the febrile phase.

TABLE I.
Approximate Frequency of the Various Symptoms in the Series.¹

Symptom.	Percentage Incidence.
Fever	99
Drowsiness	90
Headache (90% frontal)	80
Nausea and vomiting	75
Anorexia	90
Pain in neck and back	80
Abdominal pain	30
Muscle pain and hyperaesthesia	30
Tremor and jactitations	30
Disturbance of micturition	20
Constipation	75
Vocal symptoms	15
Photophobia, squint, diplopia	5
Actual paralysis noted	30

¹ Note that these figures refer only to the disease in its early stages; later stages will produce profound alterations.

Signs on Examination.

There is a definite type of lesion which I shall call "typical preparalytic poliomyelitis". It is found in a majority of the cases; it gives very little difficulty in diagnosis, it shows most of the signs hereunder described, and no other discoverable lesion is present to account for the findings.

The patients are usually well-developed children with a definite flush, often faintly violaceous, with circumoral pallor; they are sweating freely and are unmistakably ill. The temperature ranges from 37.8° to 39.72° C. (100° to 103.5° F.), according to the time of day, sponging, administration of aspirin *et cetera*. The pulse rate is distinctly high, and varies from 120 to 150 per minute. The children are perfectly clear mentally, are cooperative and lie quietly in bed. Usually they have been drowsing until the doctor arrives, when they become quite bright and often cheerful. A reservation must be made here concerning some of the smaller children, under three years of age, and the babies, who are often very difficult to manage and whose signs are most difficult to assess; but even they are obviously quite well orientated and mentally clear. Breathing quietly, they have no cough or coryza. Several children have at times shown a rapid type of respiration rather like that of pneumonia, but it is intermittent and after a few minutes they are breathing normally again. It probably represents a central disturbance of rhythm.

Pain does not seem to worry the patients a great deal; they will remain quiet indefinitely. Only a few show any great resentment when addressed. Their demeanour is strangely staid; one feels that one is addressing an adult; their replies tend to monosyllables. The disease is a "quiet" one; there may be twenty children in a ward with not a sound emanating from it; they are quietly concentrating on the battle ahead. Just compare such a ward with one containing twenty children with tuberculous meningitis or twenty children with pneumonia.

Photophobia, nystagmus, diplopia and discernible squint are rare. The fundi are normal.

The throat is usually mildly engorged, but any exudate or membrane on the tonsils suggests another diagnosis. The tongue is heavily coated and the breath is often "abdominal" in type.

No abnormality is detected in the heart, except occasionally in the severe cases with vasomotor involvement; bradycardia may ensue.

The lungs are usually quite clear. An occasional râle may be heard, especially with inhalation of saliva *et cetera*. It is most important to lay one's hands on the chest and observe movement, exactly in the way one endeavours to detect diminished movement in the chest in early tuberculosis or in effusion. It is surprising how many of these patients with poliomyelitis will have definitely diminished movement of one or both sides of the chest and never realize it. Be sure to ask them to "blow their chests out". They may be lazily breathing, mainly diaphragmatically, with their intercostal muscles doing a minimum amount of work, and this may give an impression of intercostal weakness which is apparent and not real. Another way to force them to use what intercostal muscles they have is to force one's clenched fist firmly into the epigastrium, thereby limiting diaphragmatic movement, when any real intercostal weakness will become apparent, the neck muscles being brought in to assist in the severe cases. Incidentally, one very rarely sees the post-diphtheritic picture of good function of the intercostal muscles and absent function of the diaphragm; the reverse is far more common.

There is usually nothing to feel in the abdomen except occasionally a full, painless bladder. Always make a point of feeling for the spleen; for if it is easily palpable, as it so often is in many of the acute and subacute febrile upsets of childhood (for example, acute sore throat, pyelitis, enteritis, stomatitis, tuberculous peritonitis *et cetera*), then something definite in the way of positive signs is necessary before the lesion can be labelled poliomyelitis. The spleen is extremely rarely palpable in poliomyelitis; and when it is, often coincident infection is present.

While examining the abdomen it is useful to ask the child to lift the head unaided, watching meanwhile for any umbilical migration which will indicate asymmetrical abdominal weakness.

The spinal signs are undoubtedly the mainstays of diagnosis. When they are completely absent a positive diagnosis is almost impossible, unless a suggestive weakness can be found in a muscle group somewhere. In the "typical" case under discussion they are present in abundance.

Neck Stiffness.—Of all the signs neck stiffness is probably the most uniformly present. It has its limitations in the screaming, non-cooperative child or baby, when it is sometimes impossible to assess. It is elicited by laying the patient completely supine, with no pillow, gently cupping the occiput in the palm of the hand, and extremely slowly and gently flexing the neck, talking to the child on any subject but stiff necks while it is being done. The normal child will get its chin onto its *manubrium sterni* without much trouble and without opening its mouth; the child with poliomyelitis will, after the head has moved one, two or three inches, complain of pain in the back of the neck (sometimes, strangely

enough, the manubrial region, the abdomen, or even the back of the legs), and the examiner's hand will feel the abrupt tensing of the trapezii. Finally the shoulders will be noticed to be lifting from the bed. One useful expedient in a nervous, non-cooperative child is to leave its pillow in position, place the hand under the pillow, and pretend to be arranging the pillow "more comfortably", at the same time giving the neck a few surreptitious flexes, watching meanwhile for any change in expression.

It is an interesting point that, no matter how stiff the neck is, there is very little head retraction, and the mind remains extraordinarily clear; so that, though the children may be refractory, they know what they are doing.

The Navel Sign.—The navel sign is another test for neck stiffness, its advantage lying in the fact that it is performed by the child itself, and the doctor can observe unobserved, which obviously is helpful in the examination of refractory children.

The child sits up, on the mother's knee if necessary, and a torch is held in the region of the umbilicus while the child is asked or coaxed to look at it. There is a sudden halt in the neck flexion, a frown, and a grunt of pain, not unmixed with surprise; and no matter how the child is coaxed, the chin simply will not rest on the manubrium as it normally can do. The straighter the child's knees are kept during this test, the more marked will the sign be.

The Head Roll.—The head roll might be called a postulate which must be associated with an apparent neck stiffness to call that neck stiffness real. It is a very striking thing that, no matter how stiff the neck in a patient with poliomyelitis may be to anterior flexion as tested in the manner described, lateral rotation of the head from side to side is extraordinarily painless, and a full 180° can be readily obtained in this way. The children usually smile when it is being done; but immediately anterior flexion is again attempted the expression changes. A few of the children with excessively stiff necks may complain that the roll is slightly painful, but it is out of all proportion to the pain of anterior flexion.

The importance of this becomes clear. One of the most difficult of differential diagnoses is stiff neck due to causes other than poliomyelitis, for example, fibrositic, traumatic or inflammatory causes in the region, and all these patients will resent lateral rotation as well as anterior flexion, sometimes only to one side. We have all had personal experience of the ordinary stiff neck, and remember how painful it was to rotate the head laterally.

The child suspected of poliomyelitis, therefore, must have, in addition to neck stiffness, a painless head roll; in other words, his neck stiffness must not be due to a "stiff neck", if I may use such an apparently ambiguous expression.

The second postulate, which had better be discussed here, as it helps in just this type of case, is localized tenderness in the region. No matter how

stiff the neck and back of children with poliomyelitis are, to palpation they are singularly free from tenderness in comparison. One may palpate quite firmly the insertions and bellies of the neck muscles and the *sacrospinalis* with very little tenderness resulting; but in cases of local traumatic lesions in the region, fibrositis, lumbago or other inflammatory lesions, all patients show definite tender spots, and the glands of the region are often enlarged and tender—a feature not seen in poliomyelitis.

One of my patients had cellulitis of the occiput secondary to a burn, and completely covered by hair. Her condition was very like poliomyelitis; but there was too much tenderness in the region.

Absence of any marked tenderness of neck or back is therefore a second postulate to be fulfilled in a case of suspected poliomyelitis with neck and spine stiffness.

Spine Stiffness.—Spinal rigidity is exactly comparable with that in the neck, and is produced in the same way. Both are usually present together, and more or less equally; but sometimes one far outweighs the other in intensity. Whether this means greater concentration of inflammatory reaction in corresponding cervical or lumbar enlargement, with correspondingly greater risk of upper or lower limb paralysis, is as yet not certain. The best test for spine stiffness is kissing the knees: the child is allowed to sit in any position he chooses, or to lie on his side, and is asked to kiss his knees or to rub his nose on his knees—a feat which the normal child has no difficulty in performing, but which a child with spinal rigidity finds difficult or impossible. The children will make a dive at their knees, but will bound back with a grunt of pain, the whole movement being very reminiscent of a door which has been swung back against its hinge. Again, the child with fibrositis of the back muscles will have exactly the same difficulty, and the lesion must be differentiated by the rather more acute lancinating pain, accompanied by a gasp, a grimace and a dread of further movement in any direction, also by localized tender points in the region. The child with poliomyelitis knows he is all right up to a certain point; the child with fibrositis is not sure what movement will produce the pain.

Amoss's or the Tripod Sign.—The tripod sign is seen when the child is unable to sit up without propping himself up with his hands behind him. It is due to a combination of weak trunk muscles and spinal rigidity, which will not allow him to get his centre of gravity far enough forward to sit unaided. We do not commonly see it in the early stages.

The Head Lag.—The head lag is a test for weakness of the neck flexor muscles, supplied by a particularly vulnerable group of segments of the cord, and the muscles concerned are the *rectus capitis lateralis* and *rectus capitis medialis*, the *longus colli* and *longus capitis*, the scalenes and the sternomastoids. These are supplied by the first to the eighth but predominantly by the fifth, sixth and seventh cervical nerves. When present, the head

lag is a definite phenomenon. The examiner sits on the bed facing the patient, who is lying supine, places his hands one behind each shoulder, and then, while asking the child to lift its head, slowly draws the shoulder towards him. When the sign is positive the head lags heavily back, until with an obviously severe effort the child jerks the head up to its normal position with the shoulders, often by a slightly circuitous route. The child's expression is one of great strain, and sometimes it is quite unable to lift its head at all. As the shoulders are slowly lowered, the imperfectly controlled head falls back heavily, the occiput striking the mattress quite forcibly.

The patient must, of course, be trying. If he will not cooperate the mother may be substituted for the examiner and the child watched through a crack in the door. If he lifts his head once normally the sign is negative, no matter how often the head appears to lag before or afterwards. Actually there is no mistaking the real head lag. I have seen the sign positive twelve hours from the onset of the disease; but this is rather unusual. Strangely enough, the neck muscles tend to recover well, probably because of a well-diffused segmental innervation.

Kernig's Sign.—Kernig's sign is rarely of any great help. When it is positive the other signs of neck and spine stiffness are also present, and are much easier to be certain of. The child lies supine and the thigh is slowly flexed to the vertical; the leg is then slowly extended, and in most children will reach the vertical, that is, will fall into line with the thigh fairly easily. There is minor individual variation in this, however; but it can be said that if there is a complaint of pain behind the knees when the leg is still more than 30° from the vertical, the sign is positive.

Weakness of a Muscle Group.—Weakness of a muscle group is, of course, of great importance as a diagnostic finding, and a brief résumé of the major muscle groups is essential in all cases. In most of the early cases, of course, nothing definite will be found.

Reflexes I once thought to be of little help in early diagnosis, but I am sure that this attitude is wrong. Again and again whilst testing them I have found an asymmetrical diminution; and on going carefully into the power of the muscle concerned I have been convinced of a weakness which would otherwise have escaped notice. How clear the diagnosis then becomes! Incidentally, the hamstring jerks, semimembranosus and semitendinosus, and the femoral reflex, obtained with the patient lying prone and with the examiner's thumb on the tendon, are well worth trying.

One of the greatest uses of reflexes is to discriminate between real and apparent weakness of a muscle group. The type of patient I have in mind is the fairly sick person with infective fibrositis, usually an adult, who says he is unable to extend one leg at the knee joint, that is, he has an apparent quadriceps weakness. If this can be proved to be

a real weakness due to lower motor neurone involvement, the diagnosis of fibrositis becomes untenable. This is where the reflexes are so valuable; for it is one of the most constantly true statements in poliomyelitis that if a muscle or muscle group appears weak, and if it is a group with an obtainable reflex, then that reflex will be either diminished compared with the normal side or lost altogether. These patients with painful limbs and a pseudo-weakness have usually hyperactive reflexes; also coercion and coaxing will often produce the necessary movement. If the poliomyelitis patient says that he cannot lift his limb, no amount of coaxing will alter this; and after a few preliminary trials he smiles and says that he just cannot do it.

Negative Signs.—Before discussing diagnosis I should like to present a group of negative findings, that is, findings which, if found in the history or on examination, immediately strike a note of query as to a positive diagnosis. They are not perfect—nothing is in this disease; but they require strong positive evidence to contradict them. I myself have found them as useful as many of the positive findings. They represent a clinically useful mode of differential diagnosis.

Cough.—Cough, with or without coryza, is extremely unusual, and if not volunteered it is always worth asking for. There are two exceptions. First comes the severe bulbar case with pharyngeal involvement, in which inhalation of saliva or food has resulted in a cough which is often bovine and resultless, from laryngeal involvement; these cases, however, are usually beyond doubt. Secondly, there is the patient with purely coincident respiratory infection, for example, old whooping-cough, pneumonia *et cetera*; all these are very rare.

Diarrhoea.—Diarrhoea, as I have previously said, is excessively rare. Occasionally a severe purgative may produce a loose bowel action, but the cause then is patently adventitious. Even after administration of a purgative there is usually no greater result than a single constipated stool.

It is worth always asking for three things at the end of the history, if they have not been volunteered: tremor, cough and diarrhoea. The first is positive, the last two are negative indicators.

Pain and Tenderness.—Acute severe pain and tenderness in any region of the body, for example, the ear, the side of the neck, a joint or ligament, the chest, and even a limb, if accompanied by much tenderness, usually indicate another diagnosis, either acute inflammatory or traumatic. Headache of excruciating severity, causing the patient to roll round the bed clasping his head in his hands, is not the headache of poliomyelitis; it is much more suggestive of an intracranial hæmorrhage or neoplasm.

Mental Clouding and Convulsions.—Three patients in my series have in the early stages been so stuporose as to be unable to answer questions. Draper mentions this condition freely in his book, but in this epidemic it has been a rarity; when it does occur it usually does not last long. This

symptom is much more commonly seen with one type or other of acute meningitis. It has always been a striking thing to me to see a sick baby with poliomyelitis with a very stiff neck and back, yet looking with obviously intelligent eyes upon his examiner. It is very different from the unseeing gaze of the child with acute meningitis; but, of course, all cases of meningitis are not fulminating, and the patient can be rational throughout.

Convulsions.—Convulsions have not occurred in my series in a lesion proved to be poliomyelitis; they are notoriously uncommon and suggest another diagnosis, for example, the coccal infections.

Rigor.—A rigor has not occurred in any of my cases, and must be distinctly unusual.

Rash.—A rash, apart from coincident impetigo or scabies, is usually indicative of another diagnosis.

The Spleen.—The spleen can very commonly be palpated in many of the infections in childhood. Acute sore throat and respiratory infections, bronchopneumonia, bowel toxæmias, typhoid and paratyphoid fevers, "influenza", catarrhal jaundice, tuberculosis of the abdomen, glandular fever, tuberculous meningitis, severe impetigo, are all frequently accompanied by a palpable spleen. One would expect a spleen to be commonly palpable in poliomyelitis, but in my experience it practically never is so. I have seen three patients with poliomyelitis with a readily palpable spleen; two of them had had severe impetigo recently; the third had a severe local infection in the leg, with enlarged glands. The presence of an easily palpable spleen is distinctly against the diagnosis of poliomyelitis.

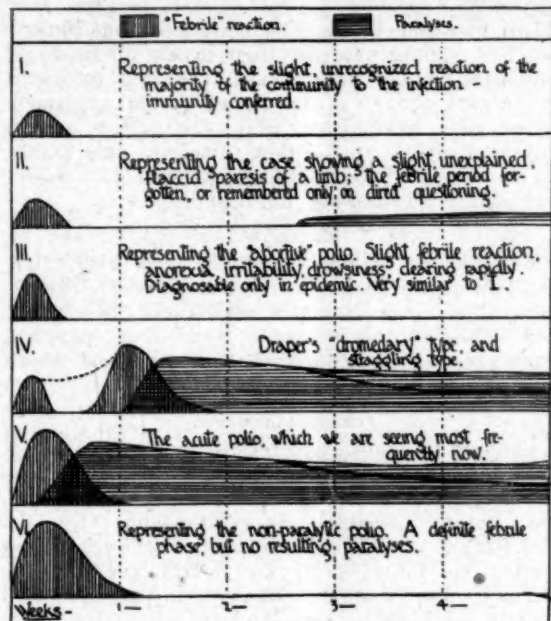
The Word "Stiff" in Reference to a Limb.—The use of the word "stiff" in reference to a limb may appear a small point, and possibly is; but it is astonishing how much care must be paid to every clue, positive and negative, in history or examination, if pitfalls are to be avoided.

The mother of a child with weakness of a limb due to poliomyelitis does not use the phrase: "His leg has been stiff for two days" or "He has been walking with his leg held stiffly" *et cetera*; she says: "His leg has been weak", "limp", "floppy" or "flabby". The use of the word "stiff" inclines one's thoughts to that difficult limbo of early tuberculous hip disease, acute inflammatory conditions, low-grade indefinite inflammatory conditions, for example, iliac or inguinal gland inflammation or unsuspected trauma.

Known Persistence of Fever.—In most cases of poliomyelitis the temperature is normal from about the fifth to the eighth day; some stragglers will be known to have an elevation of temperature, usually slight in degree, for twelve or thirteen days. As a fair generalization it may be stated that the longer an elevation of temperature has been known to persist after the tenth to the thirteenth day of any illness, the less likely is that illness to be poliomyelitis, especially if towards the end of the second week the temperature is reaching the vicinity of 38.9° or 39.45° C. (102° or 103° F.). Tuberculous meningitis is a good example of this type of differentiation.

The Diagnosis.

These, then, are the findings, positive and negative, in the typical moderately sick child with pre-paralytic poliomyelitis. The spinal group of signs are the main diagnostic weapons. They will appear in extraordinarily variable degrees of severity. Some will be pronounced, others surprisingly absent in the same case. The more definite they are, and the more of them that are present, the easier the diagnosis. The most difficult cases are those presenting one or two signs only, and then very mildly; and it is perhaps comforting to know that as a



fair generalization, the milder the febrile phase and the more indefinite the spinal signs, the more likely is the lesion to approach the abortive type, with its characteristic freedom from resulting paralysis, or at most to cause some weakness of very mild degree. Many of these patients have been left at home under quarantine, and with strict instructions to report to a medical man or to a hospital after three weeks. Some have developed mild weaknesses, but they are readily dealt with.

I think the generalization still holds, that when poliomyelitis is present it is present alone. One of the preliminaries in diagnosis is to eliminate any other possible cause for the symptoms and signs. In any big epidemic there must be coincidence; and we have had rubella, pneumonia and bacilluria simultaneously with poliomyelitis; but the twin diagnosis is a very rare occurrence.

Differential Diagnosis.

In discussing the differential diagnosis it is perhaps the most demonstrative way if I present the series of cases which I have seen in consultation during this epidemic so far, and indicate briefly the main points of differentiation in the types of case

which had given most difficulty. It will be realized, of course, that a history similar to that of poliomyelitis can be given in many diseases; also, the neck and spine stiffness with inability to kiss the knees can be given in many conditions. The whole picture must fit reasonably well the description which has been given, complete with postulates and negative signs. In many cases I was asked to see the children, not because the doctor was particularly worried, but because he was obliged to obtain a second opinion owing to a state of poliomyelitis hysteria amongst parents—a quite understandable mental state. I need not emphasize the help I obtained in being particularly careful to take an accurate history in every case. It was well worth while.

TABLE II.
Summary of Patients seen as Possibly Suffering from Poliomyelitis in 1937-1938
Melbourne Epidemic.

Lesion.	Number of Cases.
Definite poliomyelitis	285
Indefinite, but probably abortive poliomyelitis	40
Acute myofibrositis, possibly with neuritis, due to chill, infection or strain, with a benign course	26
Acute coccal throat, usually with painful glands	24
Upper respiratory infections, "influenza", sinusitis <i>et cetera</i>	16
Enteritis, bowel toxæmia, febricula	22
Teething	4
Pneumonia	9
Ulcerative stomatitis	3
Cerebral tumour	4
Cerebral thrombosis and hæmorrhage	5
Spontaneous subarachnoid hæmorrhage	4
Cerebral abscess	2
Bell's palsy	4
Cerebro-spinal meningitis (probable)	1
Serous meningitis secondary to frontal sinusitis	1
Tuberculous meningitis	2
Streptococcal meningitis of otitic origin	1
Acute diffuse myelitis	1
Acute encephalitis	1
Tuberculous spine with cold abscess and cord pressure	1
Pulmonary tuberculosis with added influenzal infection	1
Painful limbs probably due to trauma in young children	7
Osteochondritis of pubic ramus	1
Rheumatic fever	2
Scarlet fever	1
Septicæmia (one secondary to an acute coccal throat)	3
Glandular fever	3
Subacute bacterial endocarditis	1
Cellulitis of the occiput	1
Cholecystitis	1
Herpes zoster	1
Acute pyobacilluria	1
Catarrhal jaundice	1
Stone in parotid duct	1
Foreign body in buttock	1
Pressure palsy of peroneal nerve	1
Undiagnosed case, non-diabetic glycosuria and stupor in child	1
Psychogenic condition	1
Total	488

The indefinite cases, probably of abortive poliomyelitis, were very difficult; they can be dismissed with the note that the patients gave a suggestive history, no negative signs, very dubious positive signs, but nothing else to account for their illness. Many never reached the Infectious Diseases Hospital at Fairfield, and there must be hundreds who never reached a doctor.

The acute myofibrositic-neuritic group was extremely difficult. The lesion was diagnosed upon the lines mentioned earlier; that is, excessive pain and tenderness, pseudo-weakness, hyperactive jerks in an apparently weak limb, a spleen at times, painful head roll *et cetera*.

The patients with acute sore throat presented difficulty only in the preexudative stage, and sometimes the diagnosis in that stage was really difficult. Some, with great forethought, presented easily palpable spleens.

The children with bowel upsets presented diarrhoea, absent spinal signs and some palpable spleens.

One of the patients with a ruptured intracranial aneurysm I have referred to. He had a subacute hæmorrhage only, and had been ill for four days when I saw him; but the onset was too acute, the headache was too severe, he was too pale, and his cerebro-spinal fluid was diffusely blood-stained. His spinal signs, however, were perfect for poliomyelitis, except that there was no head lag (which, of course, alone, would not negate a diagnosis of poliomyelitis).

The patients with Bell's palsy had fairly complete seventh nerve palsy, with some stylomastoid tenderness, appearing suddenly when they were apparently perfectly well. Weakness of the seventh nerve in poliomyelitis was slower in onset in patients with a definite background of mild or severe poliomyelitic symptoms; usually the weakness was less than in Bell's palsy; but in some cases it was as pronounced as in any case of Bell's palsy.

Lumbar Puncture.—I have been very surprised at the limitations of the use of lumbar puncture as a diagnostic procedure; and perhaps its position may best be summarized in the following way.

1. At least 90% of cases are diagnosable without its use, by means of the history and the clinical examination. When lumbar puncture is carried out, the cerebro-spinal fluid findings are merely confirmatory and reveal an increase in globulin, and a lymphocytosis of 50 to 3,000 cells; the chlorides are normal in quantity.

2. In the very early case, that is, when the disease has been progressing six to eighteen hours (a time when diagnostic help is most wanted), the cerebro-spinal fluid findings are very often normal. The old idea that meningitis occurred at the onset cannot now be held.

3. We certainly cannot regard absence of cells as indicating absence of poliomyelitis. The converse also holds, that some increase of lymphocytes and of globulin certainly does not necessarily prove the condition to be poliomyelitis. Early tuberculous meningitis, cerebral abscess or acute benign lymphocytic meningitis (whatever be its true nature) can give exactly similar findings.

4. We probably do not fully know the usual lumbar puncture findings in diseases in which lumbar puncture is not usually performed; and it is conceivable that lymphocytosis occurs in the cerebro-spinal fluid in many common conditions.

5. There will, however, be a very occasional case in which we shall be surprised by lumbar puncture providing a suspicious cerebro-spinal fluid although the lesion was not regarded as poliomyelitis.

6. In my series lumbar puncture gave its greatest help in lesions which, while bearing some resemblance to poliomyelitis, were regarded as being

something else; spontaneous subarachnoid hæmorrhage was an instance.

One of the few cases in which lumbar puncture was of very real help was in a child with otitic streptococcal meningitis. Her illness was strikingly like poliomyelitis, but there was the definite history of earache, for which she had seen an aural surgeon the week before. In spite of this, if I had been asked to be definite, I should have favoured poliomyelitis. However, the child obviously required lumbar puncture to exclude the meningitic possibility; and the fluid contained 4,000 polymorphonuclear cells per cubic millimetre. The condition was indeed streptococcal meningitis, secondary to the otitic lesion. To me the child was one of a relatively small group in which lumbar puncture really gave great help.

I do not wish to give the impression that lumbar puncture should never be used in the diagnosis of poliomyelitis, but rather that it should represent only a part of one's rather more powerful armamentarium of a good history and examination, and in full realization that other diseases are extant (known and unknown) which can and do produce identical cerebro-spinal fluid findings.

Conclusion.

And thus at the end of March, 1938, with extraordinary abruptness, after nine months of virulence unparalleled in Australasia, we witness the termination both of the epidemic and of a personal experience which is perhaps best described as an interesting nightmare.

Acknowledgements.

I should like most sincerely to thank the Medical Superintendent of the Metropolitan Infectious Diseases Hospital at Fairfield (Dr. F. V. Scholes), the Deputy Medical Superintendent (Dr. H. McLorinan) and the resident medical officers of that institution, for allowing me such freedom in the wards to observe the developments in patients I had seen in the home. Their informal discussions gave me much help, as did the use of some of their figures in relation to cerebro-spinal fluid cytology.

INFECTION WITH TRICHOMONAS VAGINALIS: TREATMENT WITH SILVER PICRATE.

By H. G. FURNELL,
Melbourne.

For some years the importance of *Trichomonas vaginalis* as a cause of vaginitis has been widely recognized, and during recent years many efforts have been made to find a quick and easy cure for the condition. It is comparatively easy to give relief to the patient; but the tendency to recurrence after a menstrual period has been hard to overcome. Recently silver picrate has been advocated, and I have been able to test this method of treatment through the courtesy of the proprietors of "Picratol". "Picratol" is a powder containing 1% of silver picrate. It is supplied in a screw-topped glass container holding five grammes.

The method of treatment is as follows.

After the diagnosis has been confirmed by wet-smear examination, the patient is placed in the

lithotomy position and the vagina is thoroughly cleansed with hydrogen peroxide, all discharge being swabbed out and the cervical plug of mucus removed by means of applicators covered with absorbent cotton. The vagina is then swabbed dry and "Picratol" is blown in through an insufflator. The Shelanski vaginal insufflator is particularly suitable for this, as it has a rubber collar round the nozzle, which is pressed against the vulva, making an air-tight plug; when the bulb is squeezed the vagina is dilated and all the folds are flattened out, the "Picratol" being enabled to come into intimate contact with the whole of the mucosa. Alternate inflation and deflation of the vagina are continued until all the powder is in the vagina.

The patient is ordered a box of twelve vaginal suppositories of "Picratol" and is told to insert one at bedtime on the day after the visit and on each of the five succeeding nights. A week after the first visit the patient returns for another insufflation, and uses the remaining six suppositories on succeeding nights, by which time a cure is expected. The alleviation of symptoms is rapid, the patient becoming comfortable within a day or so of the first treatment.

I have now used this method in about fifteen cases, including several very severe ones, in which, from past experience, I anticipated considerable difficulty in obtaining a cure. However, all the patients so far treated have apparently been cured. Most of them have been reexamined after subsequent menstrual periods, and *Trichomonas vaginalis* has not been found.

It is certainly too early in some of the cases to be sure of cure (the first patients were treated in November, 1937); but I feel that the method is so useful that the publication of this note at this stage is warranted.

There is one practical point worthy of remark: the manufacturers stress the importance of using the full five grammes of "Picratol" at each insufflation. In this series two patients with small vaginæ have returned several days after the second visit, very disappointed and complaining of intense irritation in the vagina. On examination it has been found that some of the powder has caked into a lump in the vagina, and on its removal the irritation has quickly disappeared. In the treatment of similar patients I now use about two grammes only, and have had no further trouble.

The advantages I find in this method are as follows: (i) the ease of application, (ii) the rapid relief of symptoms, (iii) the fact that only two office visits are needed (this makes this treatment inexpensive for the patient), (iv) the certainty of the result in this series of patients.

Summary.

A method of treating *Trichomonas vaginalis* vaginitis with silver picrate is described. A practical point in its application to certain patients is noted.

Reports of Cases.

MACROCYTOSIS IN HEREDITARY HÆMOLYTIC ANÆMIA (ACHOLURIC JAUNDICE), WITH REPORT OF A CASE.

By C. G. LAMBIE.

(From the Department of Medicine, University of Sydney.)

In the great majority of cases of hereditary hemolytic anæmia, the mean corpuscular volume is diminished and the red cells, as observed under the microscope, appear to be microcytes. Naegeli⁽¹⁾ and von Boros⁽²⁾ have drawn attention to the fact that there is a change in the shape of the erythrocytes in this disease, for, although their diameter may be diminished, there is a relative increase in their thickness, so that the cells become spheroidal in form. This has been confirmed by Haden.⁽³⁾ In spite of the change in form, the cells, as seen under the microscope, appear small and the cell diameter is decreased.

In the case here reported, on the other hand, most of the erythrocytes, at one stage of the anæmia, were macrocytes. Not only were the mean corpuscular volume and the mean corpuscular hæmoglobin value greatly increased, but there was an obvious increase in the average size of the corpuscles as observed microscopically. The mean diameter of the erythrocytes during an exacerbation of the anæmia was 7.66 microns, the coefficient of variability being 15.4% and megalocytosis 25% (see Figure 1). As the anæmia

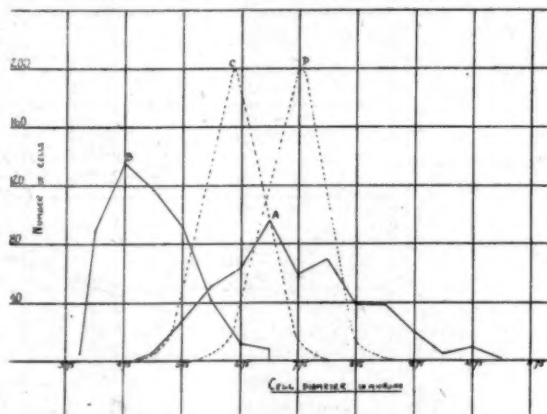


FIGURE 1.

Price-Jones curves in which frequency (number of cells) is plotted against cell diameter. Curve A shows macrocytosis at height of anæmia, Curve B shows microcytosis after splenectomy and return to normal count, Curves C and D show limit of normal variations. Five hundred cells counted for each curve.

diminished, during a partial remission, the mean corpuscular volume, the mean corpuscular hæmoglobin value (see Figure 2) and the macrocytosis all diminished. After removal of the spleen there was at first an increase in the anæmia and accompanying this a rise in the mean corpuscular volume; but with the return of the erythrocyte count and the hæmoglobin percentage to normal, the mean corpuscular volume and the mean corpuscular hæmoglobin value fell below normal. There was no microcytosis until the anæmia had disappeared.

The fact that some patients with hereditary hemolytic anæmia exhibit macrocytosis may lead to difficulties in diagnosis; and such patients are apt to be mistakenly considered to be suffering from pernicious anæmia or, on account of their failure to react to liver extract, from achrestic anæmia⁽⁴⁾ or possibly aplastic anæmia. The following case illustrates these points.

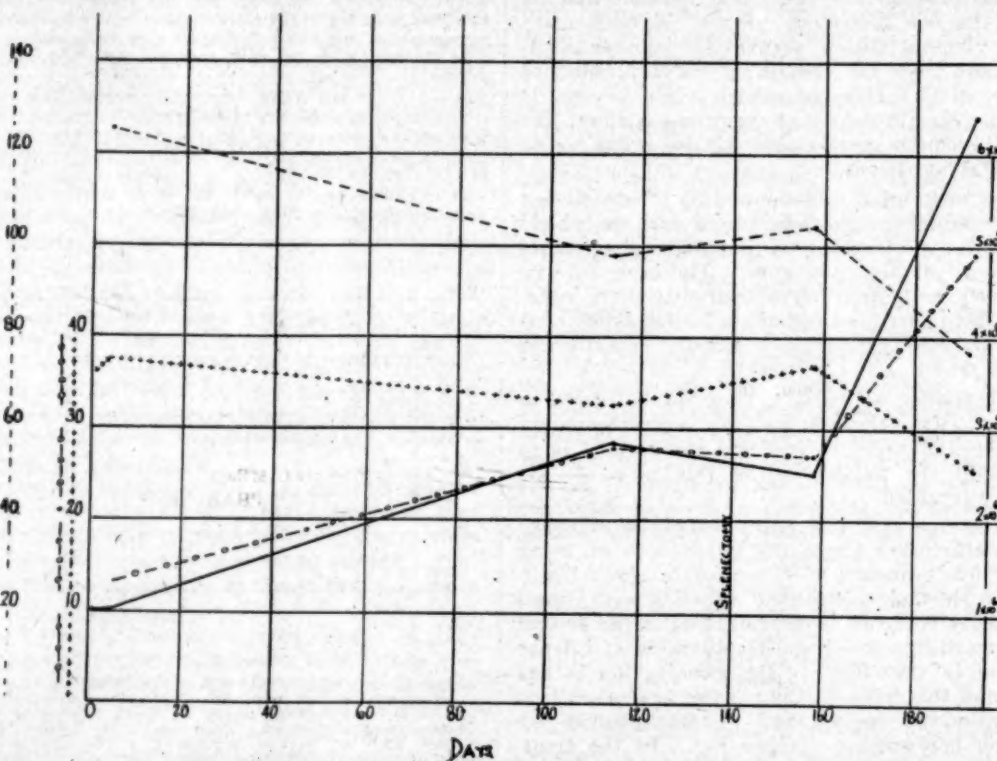
History.

E.H., a woman, aged thirty-six years, was admitted to the Royal Prince Alfred Hospital on February 19, 1937, complaining of weakness, palpitation, breathlessness and a yellow colour of the skin. She gave the history that in 1927, after the birth of her last child, she began to complain of weakness, palpitation and breathlessness on exertion. The severity of the symptoms varied, but in 1931 she became so weak that she was compelled to seek medical advice. She attended the out-patient department of a general hospital, where she was considered to be suffering from pernicious anaemia and was treated with raw liver and liver extracts. Between 1931 and the time of her admission to the Royal Prince Alfred Hospital she was regarded as suffering from pernicious anaemia and was under more or less continuous treatment for that disease in the out-patient departments of two general hospitals. During this time she had several remissions and relapses in spite of treatment, and finally she was looked upon as a sufferer from pernicious anaemia resistant to treatment with liver extract. During the two months prior to her admission to hospital her condition became much worse

Investigation and Treatment.

On admission to hospital the patient was seen to be emaciated and deeply jaundiced, the skin and conjunctivae being of a bright lemon yellow colour. The mucous membranes were pale. The spleen was just palpable below the costal margin. The urine contained much pus, and there was some tenderness in both flanks. There was a slight leucorrhoeal discharge from the vagina. The temperature varied between 37.25° and 39.2° C. (99° and 102.5° F.). There were no symptoms or physical signs referable to the nervous system, and the tongue was not sore.

Blood examination gave the following results. The erythrocytes numbered 1,000,000 per cubic millimetre. The haemoglobin value was 3.4 grammes per 100 cubic centimetres (23% of normal). The colour index was 1.15. The corpuscular volume was 12% packed red cells, and the mean corpuscular volume was 120 cubic microns, the normal range being 80 to 94. The mean corpuscular haemoglobin value was 34 micromicrogrammes, the normal range being 26 to 31. The mean corpuscular haemoglobin concentration was 28% (normal range 33% to 39%).



DATA
FIGURE II.

Mean corpuscular volume (cubic microns), -----; mean corpuscular haemoglobin (micromicrogrammes), +++++; red blood corpuscles, ————; corpuscular volume per centum, —o—o—o—, in case of hereditary haemolytic anaemia.

than it had been previously. Her skin became very yellow, and the urine became muddy in appearance and foul smelling.

There was nothing of any importance as regards her previous health, the patient having enjoyed good health until 1927. She had never been jaundiced.

According to her own statement, none of her blood relatives had suffered from anaemia or jaundice. Her mother died of cancer at the age of forty-eight years; the cause of her father's death was unknown. She had two sons, aged nine and fifteen years. Both of them were alive and well, and neither had suffered from jaundice.

Her habits and surroundings were satisfactory and did not appear to bear any relationship to her disease.

Anisocytosis, polychromasia and pronounced macrocytosis but very little poikilocytosis were found on examination of the erythrocytes. There were 232 nucleated erythrocytes for every 100 leucocytes; of these, 25 were normoblasts, 178 were erythroblasts and 29 were megakaryoblasts. The leucocytes numbered 57,625 per cubic millimetre of blood, 16 being band forms and 58.5 being segmented. Of the leucocytes, 74.5% were neutrophilic cells, 13% were lymphocytes, 11% were monocytes, 1% were eosinophilic cells, and 0.5% were basophilic cells.

The direct Van den Bergh test elicited a delayed response. The blood plasma contained 16 Van den Bergh units. The urine contained urobilin.

The patient was too ill to have a test meal.

The blood picture was considered to be typical of pernicious anaemia, with the exception of the polymorphonuclear leucocytosis; but this was attributed to the presence of pyelitis. These findings, together with the previous history, especially the occurrence of remissions, the family history, and the fact that the spleen was only slightly enlarged (and that this may have been partly due to the presence of infection) seemed to confirm the view that the patient was suffering from pernicious anaemia. She was accordingly given full doses of "Campolon", a beginning being made with 20 cubic centimetres given intramuscularly. There was a complete lack of response to this treatment, so far as the erythrocyte count and haemoglobin value were concerned; and the patient's condition became so serious that her life was saved only by repeated blood transfusion. In spite of blood transfusions and further treatment with "Campolon" her erythrocyte count did not increase. A reticulocyte count made at this time revealed that 60% of the erythrocytes were reticulocytes; but unfortunately the reticulocyte count had not been made before treatment with "Campolon" was begun, so that it was impossible to say whether the reticulocytosis was a response to the treatment. The failure of the erythrocytes and the haemoglobin value to increase in spite of reticulocytosis was attributed to the presence of infection. Owing to a painful local reaction being produced by the injections, and also to the apparent lack of response, the administration of "Campolon" was discontinued, and "Ventriculin" was given by mouth. Meanwhile, treatment had been directed towards overcoming the pyelitis by the administration of mandelic acid and other measures. An improvement in the condition of the blood coincided with the clearing up of the urinary infection, and it is very doubtful whether the administration of "Ventriculin" had anything to do with it. By the end of three months (May, 1937) the erythrocytes had increased to 2,930,000 per cubic millimetre and the haemoglobin value to 9.3 grammes per 100 cubic centimetres (64% of normal). The changes in corpuscular volume, mean corpuscular volume and mean corpuscular haemoglobin are shown in Figure II.

It was now noted that in spite of the improvement in the condition of the blood, the jaundice, although diminished, persisted and appeared to be quite out of proportion to the degree of anaemia, on the assumption that the case was one of pernicious anaemia. The spleen also remained palpable, notwithstanding the subsidence of infection. These observations, together with the lack of response to "Campolon" and the high reticulocyte count, threw doubt upon the previous diagnosis. The fragility of the erythrocytes was therefore determined and was found to be increased, haemolysis beginning in 0.7% saline solution and being complete in 0.47% saline solution. The patient's blood relatives were now examined, and it was found that both of her sons and one of her sisters showed increased fragility of the erythrocytes; one son had latent jaundice. All subjects showing increased fragility of the corpuscles, including the patient, belonged to blood group IV.

A fractional test meal showed that free hydrochloric acid was present in the patient's stomach, and that the curve of gastric acidity, although low, was within normal limits.

The patient was now advised to have the spleen removed. This operation was performed on July 22, 1937. The spleen weighed 355 grammes, and microscopically it exhibited the usual changes found in acholuric jaundice. Within two days of the operation the jaundice had completely disappeared. Owing to the loss of blood at the operation, and also probably to the recurrence of the urinary infection, there was a temporary increase in the anaemia, and this was accompanied by a return of macrocytosis. Subsequently, however, the patient made a good recovery, the erythrocyte count eventually rising to 6,400,000 per cubic millimetre and the haemoglobin value to 16.3 grammes per 100 cubic centimetres. The mean corpuscular volume and mean corpuscular haemoglobin also fell below normal values (see Figure II); and the mean diameter of the erythrocytes was now 5.17 microns, the

coefficient of variability 19.4%, and megalocytosis had disappeared (see Figure I).

Even after removal of the spleen the red cells continued to exhibit increased fragility. Two weeks after the operation haemolysis began in 0.74% saline solution and was complete in 0.65% saline solution. Two months later haemolysis began in 0.62% saline solution and was complete in 0.47% saline solution.

Comment.

It is probable that if a reticulocyte count had been made and if a test meal had been given to this patient before she became desperately ill, the diagnosis of pernicious anaemia would not have been made. It might also have been possible to exclude aplastic anaemia. Had a reticulocyte count been made at the first blood examination after her admission to hospital, doubt might also have been cast upon the original diagnosis.

The case shows that the presence of macrocytosis should not exclude the diagnosis of hereditary haemolytic anaemia, especially during exacerbations of the anaemia. Nor should the absence of a typical family history lead one to exclude this diagnosis until the blood relatives have been examined for erythrocyte fragility and latent jaundice.

It would also seem advisable to make it a rule to determine the erythrocyte fragility in cases of alleged achrestic anaemia and indeed in all cases in which the blood picture resembles that of pernicious anaemia, when the diagnosis is not entirely supported on other grounds, such as the presence of achlorhydria, response to liver treatment and subacute combined degeneration.

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STREPTOCOCCAL MENINGITIS TREATED WITH SULPHANILAMIDE.

By COLIN ANDERSON and J. C. ENGLISH,
Gunnedah, New South Wales.

DORA G., aged six years, developed *otitis media* on the right side on about November 20, 1937. On November 23, 1937, vomiting and diarrhoea set in after she had eaten some green fruit. There was no sign of mastoid involvement. Signs of meningitis appeared on November 30, 1937. Lumbar puncture revealed turbid fluid under increased pressure, containing neutrophilic cells, and culture resulted in a growth of streptococci.

Double myringotomy was performed. Five cubic centimetres of "Soluseptasine" were given intramuscularly and 0.5 gramme of sulphanilamide was given by mouth.

On December 1, 1937, three doses, each of 0.5 gramme, were given, and from December 2, 1937, to December 10, 1937, 0.5 gramme was given four times a day. Lumbar puncture was performed daily till December 4, 1937, the fluid becoming progressively clearer. No fluid could be obtained on December 4, 1937.

Cyanosis appeared and was present till two days after the cessation of the sulphanilamide therapy. Head retraction disappeared by December 5, 1937, and Kernig's sign several days later. The right ear continued to discharge, and on December 18, 1937, the dressing was changed from hydrogen peroxide and saline solution to iodo-boric powder once a day.

The child improved steadily and was discharged from hospital on December 22, 1937. She was then apparently well, though rather "nervy". By December 31, 1937, the ear was dry, and it has remained so. There were no undesirable sequelae.

The points of interest are the following:

1. Recovery from this disease is unusual.
2. The question arises whether earlier paracentesis should have been done.
3. Recovery occurred without mastoidectomy.
4. Sulphanilamide was relied on largely in the treatment.

Reviews.

HOSPITAL CATERING.

J. DE K. WHITSED'S "Scientific Catering for Institutions" deals with the normal diet for children of all ages, at home and at school, and for adults, both male and female, occupied with various types of work.¹ Some helpful hints are given on the art of menu-making for institutions. The author supplies floor plans of equipment in use in kitchens, makes suggestions for the staffing of kitchens, and describes the kitchen routine. He next discusses the methods of cooking those foods which are protein, those necessary for fuel and those providing vitamins A and C, and sets down simple recipes for each group.

The most interesting part of the book is the appendix, which contains the dietaries used in all sorts of institutions—schools and hospitals in London and South Africa, a London store, a British army at its home station, and a South African battalion. The dietaries of the competitors in the Olympic Games at Berlin in 1936 are of special interest in that they exemplify the food habits of different countries, and draw attention to the increasing part which diet is playing in the daily routine of the world.

CLEFT PALATE AND SPEECH TRAINING.

THE little book entitled "Speech Training for Cleft Palate Patients" deals with certain of the principles of speech training, and is intended to help those unfortunates who find difficulty in speaking correctly after operations for the repair of cleft palates.² Those who undertake this surgical procedure know how difficult it is to get a good functional result, even though the operation may be successful from an anatomical point of view. Parents are always more concerned about the improvement in their child's speech than in the perfect union of the palate. Invariably the question asked by the mother of a child with cleft palate is whether the speech will be all right after the operation; we all know how impossible it is to answer this question in the affirmative. Dr. Pickerill has had great experience in dealing with these patients and is well qualified to give advice on this matter.

The subject matter is presented in a simple manner and the instructions are clearly and definitely set out, so that the mother or teacher of an afflicted child may easily follow them. Several pages are devoted to a discussion of speech and the method of production of various sounds. The author advises operation before the age at which babies make their first efforts at talking. Advice is given for the commencement of training of even very young infants by what he terms "imitation instruction". Various blowing exercises to develop the palate and lips are

described; the question of the segregation of patients with cleft palate is dealt with.

This little book should prove extremely useful to all interested in the surgery of the condition and should be in the hands of all mothers and teachers of cleft palate patients. It should also be a great help to older children and adolescents whose speech training has been neglected in their earlier years.

REFRACTION.

THE third edition of "The Practice of Refraction,"³ by Sir Stewart Duke-Elder, is more concise than the first, but differs only slightly from the second edition. It is essentially a practical book and does not deal with the mathematical theory of optics. Chapters are devoted to eye strain, refraction, accommodation, muscle balance, clinical methods and spectacles. There are useful appendices, which include standards of vision for air pilots and for members of the navy, army and mercantile marine.

The work is well illustrated, complete in scope and clearly written. It is preeminent in its class.

There is a fitting recognition of the fact that defects and disorders of the eyes are intimately associated with the whole make-up of the patient and cannot be effectively treated unless the ophthalmologist is able to correlate the general condition of the patient with the condition of the eyes. The author explains the importance of small errors of refraction, and emphasizes the necessity of treating them according to the individual and his symptoms.

A HANDBOOK OF ANATOMY.

J. A. KEEN'S "Short Manual of Regional Anatomy" is one of those books of the *multum in parvo* kind, of which there are quite a number. It differs from most of its type in containing many simple diagrammatic figures which, in the words of the author, "replace many pages of description" and thus serve as an aid to memory. It is of handy size and is well printed, the diagrams being clear. The author is to be congratulated on the comprehensive list of derivations at the end of each chapter. Doubtless this little book will become popular with medical students, for whom it is especially written.

Notes on Books, Current Journals and New Appliances.

DIAGNOSIS, PROGNOSIS AND TREATMENT.

DR. ROBERT HUTCHISON'S little book "Principles of Diagnosis, Prognosis and Treatment" has reached its second edition.⁴ It consists of three short lectures in simple language. In these days of instrumental diagnosis, ready-made therapeutics, fads and evanescent fashions we are happy to be brought to an appreciation of basic principles by the calm inspiring words of this physician and philosopher. The book can be read in half an hour, and it should be read, not once but many times, by every medical practitioner.

¹ "The Practice of Refraction", by Sir Stewart Duke-Elder, M.A., D.Sc., Ph.D., M.D., Ch.B., F.R.C.S.; Third Edition; 1938. London: J. and A. Churchill Limited. Large crown 8vo, pp. 376, with illustrations. Price: 12s. 6d. net.

² "Short Manual of Regional Anatomy, written for the Medical Student as an Aid to a Rapid Revision of the Whole Subject", by J. A. Keen, M.B., F.R.C.S.; 1937. London: Longmans, Green and Company. Demy 8vo, pp. 167, with illustrations.

³ "Principles of Diagnosis, Prognosis and Treatment: A Trilogy", by R. Hutchison, M.D., LL.D., F.R.C.P.; Second Edition; 1938. Bristol: John Wright and Sons Limited; London: Simpkin Marshall Limited. Crown 8vo, pp. 53.

¹ "Scientific Catering for Institutions: A Handbook for Food Supervisors in Hospitals, Nursing Homes, Sanatoria, Hostels, Schools, Hotels, Boarding Houses, etc.", by J. de K. Whitshed, with appendices edited by E. Browning, M.D.; 1937. London: Baillière, Tindall and Cox. Crown 8vo, pp. 272. Price: 8s. 6d. net.

² "Speech Training for Cleft Palate Patients", by H. P. Pickerill, C.B.E., M.D., M.S., F.A.C.S.; 1937. New Zealand: Whitcombe and Tombs Limited. Foolscap 8vo, pp. 36. Price: 4s. 6d. net.

The Medical Journal of Australia

SATURDAY, AUGUST 20, 1938.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

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Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

THE PSYCHOLOGICAL APPROACH.

THOSE three words, "the psychological approach", still hold a challenge. Though pills and potions have rolled down the centuries, though time has seen the barber's pole change to the brass plate of the surgeon, the amulet give place to the vaccine, and the fashionable endocrine achieve the popularity of the mandrake root, man is still a prey to the old diseases. There are some who doubt the existence of a psychological approach; and medical education, with its emphasis on the mechanical and neglect of the psychological, is very largely responsible for such an attitude. The modern medical curriculum stands firmly and squarely upon the doctrines of anatomy and physiology, and the medical student is trained to visualize disease in terms of bacteriology and biochemistry. Thus, put with mordacious brevity, the cancer is more menacing than the conflict, the streptococcus more sinister than the sentiment. To say that such view of illness is out of focus is scarcely an iconoclasm.

To Francis Bacon the office of medicine was to "tune the curious harp of man's body"; and few

would now deny, having really thought about the matter, that a successful tuning was impossible to achieve unless due attention was paid to the mind also. Tuning is not solely a mechanical task, tightening or loosening a string here and there, easing a pedal or fastening a screw. Just as the harp tuner must possess a sense of relative pitch and, in addition to finger dexterity, an ear sensitive to the overtones of each note, so the physician, to be successful in bringing harmony to the body's functioning, must not only have by heart his well-thumbed pharmacopœia, but must give ear to the emotional enharmonics which reverberate through the mind. The trouble today is that while acknowledging that there is a mental aspect to every illness, the average physician is inclined to give no attention to it, and in his assessment of the organic and psychogenic factors in disease to fail to realize any imparity.

Psychoanalysis has fallen as a mixed blessing upon modern medicine. It has shed the light of understanding into many dark places, at the same time ventilating the mephitic corners of the morbid mind. To some its revelations are repellent; to others its teaching is twaddle. Although the impartial critic will admit that in competent hands psychoanalysis has proved a valuable form of treatment, its technical difficulties and the unfamiliar jargon of its concepts have served to scare many whose patients might have derived benefit from its use. Psychoanalysis is not a tool which every doctor can handle; it is a technique which only the specialist may acquire. Fortunately it is not the only form of psychological approach. To take a humble history of the patient's illness and to inquire into his state of mind, to assess his anxieties, to fathom his fears, to look into his loves and hates, is to use the psychological approach. In a word, it is to see the man behind the sickness.

A large part of general medical practice consists of illness which, though it may seem to have an organic pathological basis, is psychogenically conditioned, and the doctor who disregards the psychological approach not only abuses the confidence which patients place in his ability, but subjects them to needless and fruitless investi-

gation and expense without relieving their distress. Calling science to his aid indiscriminately, he often neglects his art, which by its very nature cannot function until he knows something about the psychological and social components of the illness. Insight, sympathy and encouragement have often succeeded where X rays and laparotomies have failed. Distress cannot be met by drugs alone. When science fails it is no consolation to the patient to be told he is a "neurotic".

These are elementary principles. But until they are well learned and acted upon, the chiropractor, the herbalist and the Christian Scientist will flourish, for they at least have enthusiasm for their treatment and enough commonsense "psychology" to help the patient to straighten out some of his petty problems. None but a lunatic would decry the value of modern medical science; yet it takes a man with broad outlook and wide sympathies to use its benefits wisely. The chief danger at the present time is that the lesser man may become so dazzled by science that he cannot see that his patient is still a very human being.

Current Comment.

JAUNDICE AND ARTHRITIS.

PHILIP S. HENCH, writing from the Mayo Clinic, has made observations on the effect of jaundice upon atrophic arthritis and fibrositis.¹ Having noticed that a remission of arthritis occurred in one patient while he had a painless jaundice, Hench found during the following four years no less than fourteen patients with a similar history. In most of the cases the jaundice was due to cinchophen, but he believed that the relief in symptoms was due to the jaundice and not to any other specific effect of the drug. This observation has been made by other writers, and Hench recalls that Still stated in 1897 that the form of arthritis which bears his name was ameliorated by some accidental complication such as measles, scarlet fever or catarrhal jaundice. The author presents notes of a number of patients who for various reasons became jaundiced and then experienced a pronounced remission of the symptoms of their arthritis or fibrositis. This remission had a variable duration, but an improvement lasting for a number of months was noted in most cases. One of the most remarkable features of the change was the disappearance of pain. This relief

was not complete in all cases, but considerable improvement was reported by the majority of the patients. Slight jaundice did not seem to have much effect; the author has collected a series of cases in which relief was not gained with the onset of icterus. Some of the patients in this group had gout or other forms of joint disease, and Hench remarks that the phenomenon seems specific only for chronic infectious arthritis and primary fibrositis. Different types of jaundice appear to have the same effect, provided the jaundice is sufficiently intense; but the effect of hæmolytic jaundice is not settled, possibly because severe icterus of this type is rare and the level of the bilirubin in the serum is rarely high. It is interesting to note that relief of pain was first observed as soon as visible jaundice appeared, though in a few patients the improvement antedated the onset of clinical jaundice by short periods. The author rightly remarks, however, that patients are not always reliable in their observations.

Turning to the agent which is responsible for this remarkable phenomenon, Hench considers the various possibilities. He does not overlook the facts that the jaundiced patient is usually taking a special diet, that he is at rest in bed, and that he may be otherwise ill and suffering some mental counter-irritation, and perhaps, too, some bodily dehydration. More arresting is the suggestion that one of the effects of jaundice is to dull the sensorium by some chemical means which lessens the response to otherwise painful stimuli. None of these factors seems to be sufficiently important to merit consideration. It remains to decide whether it is the bilirubin in the tissues or the bile salts or some unknown hepatic autolysate which causes so favourable a reaction. Further, does jaundice supply some missing constituent to the affected tissues, or is there a substance which detoxicates bacteria or inhibits their effect, or does the depression of liver function alone prevent the supply of some harmful product? The last suggestion is most unlikely to be true, as hepatitis without jaundice is ineffective. Now we come to the logical conclusion of all this. Is it possible to produce an artificial jaundice which will thereby bring about a remission of the symptoms of arthritis which, though temporary, would be none the less welcome? Bile salts were given by mouth in the form of ox bile and also of a proprietary preparation, but no effect was observed. Synthetic bile salts were then given intravenously and by mouth to several patients; no result was noted. Transfusions of the blood of deeply jaundiced patients were given to other patients. No reactions were observed, and although one patient declared she was better after her fourth transfusion of 800 cubic centimetres, her skin becoming slightly jaundiced, the relief and the jaundice were alike transient. However, none of these experiments produced jaundice to any but a negligible extent; even 500 milligrammes of bilirubin injected intravenously were excreted promptly, with nothing to show for the considerable expense (bilirubin cost 25 dollars a gramme at the time of

¹ Archives of Internal Medicine, March, 1935.

this work). Toluyldiamine was next tried; but although deep experimental jaundice can be produced in animals by this substance, no real success was obtained. The blood count was cautiously reduced to one and a half million red cells per cubic millimetre and some degree of hæmolytic jaundice was produced, but without any striking therapeutic effect.

As a pendant to this paper, H. E. Thompson and B. L. Wyatt record their work on experimentally induced jaundice.¹ They point out that bile contains four elements, bilirubin, bile salts, lipoid constituents and mucin, but that only the two former are likely to be of importance. Following up the work of Hensch, they found that if bilirubin and bile salts were administered together, artificial jaundice might be produced, with some improvement in symptoms where the subject was arthritic. They used a one-tenth normal solution of sodium carbonate to dissolve the bilirubin and then added a sterile solution of bile salts, the doses being about ten milligrammes per kilogram of the bilirubin and forty milligrammes per kilogram of the bile salts. This treatment was apparently harmless and yielded encouraging results. It is possible, as one patient wrote to Hensch, that "in the explanation of this incident (clinical jaundice) may lie the key to relief or cure of this disease". While we await further work with deep interest, we must all echo the sentiment of Thompson, who, in the discussion on his paper, expressed the hope that bilirubin and bile salts would not be the subject of exploitation by commercial drug manufacturers.

BACTERIÆMIA AFTER TONSILLECTOMY.

The "septic focus" hypothesis has inspired a vast amount of literature, in which conclusions of differing degrees of validity have been drawn. If we set aside the vaguer possibilities of allergy for the moment, it would seem at first sight to be a rather profitable research to investigate how often the blood stream is invaded by bacteria after the disturbance of a septic focus. H. Southworth and C. G. Flake, communicating their work on one aspect of this subject, namely, tonsillectomy, point out that the sampling of a patient's blood determines its bacterial content only to a limited extent, since ten to fifteen cubic centimetres represent so small a fraction of the blood volume.¹ It is therefore all the more essential to be able to say that when a blood culture is "positive", in the jargon of the laboratory, this result is due to organisms actually derived from the blood and not due to contaminations. That this vital point in technique gives great trouble to bacteriologists is well known; but even so, it is surprising to read how little the results of blood culture can be relied upon. Southworth and Flake, reviewing the work of other investigators into the frequency of a transient bacteriæmia after tonsillectomy, found

complete disagreement both as to the occurrence of showers of bacteria in the blood and the time at which this occurred. They remark that more consistent results have been obtained in similar investigations after teeth extraction and after surgical manipulations in an infected urinary tract. Here, of course, the circumstances are rather different, as actual disruption of a localized abscess may occur in the former instance, and in the latter a wide and anatomically unique area is available for absorption. In their own work the authors took blood from twenty-two children immediately before and immediately after the removal of tonsils; cultures were also made from the tonsils, suitable precautions being taken to ascertain the predominant bacteria. One technical difficulty of the investigation lay in the fact that it was possible to be sure that an organism was growing (perhaps to die out again quickly) only if the investigator opened the culture flasks daily for the purpose of making a subculture; this procedure increased the chance of contamination. It is curious that while in four of the twenty-two cases organisms were grown on culture media after tonsillectomy, cultures were also obtained in three instances prior to operation, and the individual patients were all different. Some writers have maintained that organisms may be occasionally grown from the blood of normal persons; but if the controversy over Löwenstein's blood cultures in tuberculosis is recalled, a cautious attitude to these claims is justifiable. Southworth and Flake conclude that no constant relationship exists between the clinical course and the absence or presence of cultured organisms, and that there is no satisfactory evidence that bacteriæmia occurs to any significant extent after tonsillectomy. They discuss freely the technical fallacies possible in this work. All will agree that full protocols are necessary in the reports of such researches. The authors' suggestion that all "positive" cultures should be reported, together with the reasons they advance for and against the view that they are due to contaminants, is also of help in the assessment of their value. After all, it does not seem likely that enucleation of such a definite anatomical structure as a tonsil would liberate a great number of bacteria into the blood, even if there were a fairly massive infection of the spongy structure of the tonsil itself. A very sensitive and accurate technique would not always return an unequivocal result. It may be remarked also that the actual method by which tonsillectomy was accomplished might be of importance in preventing the inroad of potential bacterial invaders into the blood; and to this consideration might be added the more imponderable but perhaps equally important factor of the gentleness and dexterity of the surgeon.

The question cannot be regarded as finally settled; but it does not at present appear that argument as to the importance of infected tonsils as a septic focus will be much affected one way or the other by investigations into the bacterial content of the blood before and after tonsillectomy.

¹ *The American Journal of the Medical Sciences*, May, 1938.

Abstracts from Current Medical Literature.

THERAPEUTICS.

The Use of Insulin in Malnutrition.

THE use of insulin in producing a rapid gain in weight in non-diabetic malnutrition is now an established practice. There is little evidence of the subsequent history of such cases. Harry Blotner (*The New England Journal of Medicine*, March 3, 1938) reports a follow-up study of 100 non-diabetic patients with malnutrition who had gained weight with insulin treatment and who were observed for one to six years after its cessation. The patients ordinarily injected 10 units of insulin three times a day about twenty minutes before meals for one to three months. The immediate effects were a gain in weight and an improvement in appetite. The weight gain was about three to four pounds per week for the first three weeks, a little less in subsequent weeks. The gain was apparently due to actual fat deposition and not to the presence of oedema. The majority maintained the added weight and the improved general condition for as long as six years after discontinuing the treatment, a few continued to gain and one became obese. Insulin induced at least a temporary gain in others. In some patients there was a decrease in the sugar tolerance during the period of insulin treatment, but this returned to normal shortly after the treatment was discontinued. There was no permanent impairment of carbohydrate tolerance.

The Early Treatment of Acquired Syphilis.

AFTER thirty years of experience in the treatment of early syphilitic infections, Erich Hoffmann (*American Journal of Syphilis, Gonorrhea and Venereal Diseases*, January, 1938) describes what he considers to be the most effective form of therapy, the "one-to-three-course" system. To obtain a permanent cure the following precautions must be observed. First, a sufficiently large dose of "Neo-Salvarsan" or "Silver Salvarsan" must be given from the beginning and throughout treatment; in women a primary dose of 0.3 gramme followed by a minimum of 0.45 gramme is essential, while men receive a first dose of 0.45 gramme followed by 0.6 gramme. Secondly, this single dose is to be repeated twice a week so that women receive a weekly dose of 0.9 gramme and men 1.2 grammes. Bismuth is given at the same time and only in the form of intramuscular injections. The full dose of "Salvarsan" for the course is 6.0 to 6.5 grammes for men and 5.0 to 5.5 grammes for

women. Patients usually cooperate in taking this high dosage in a short period of time to achieve an early cure. Experience has shown that one such course is effective in fresh infections of primary syphilis before the serum gives a positive reaction to the Wassermann test. A second course is, however, always given. A third is given when there are secondary manifestations, after an interval of not more than four to five weeks. Relapses and resistance to therapy are generally the result of alternation of remedies and the giving of too small a dose. The concentrated courses almost always prevent a resistance to therapy. Toxic symptoms must always be watched for; they can be prevented by the use of a solution of calcium or glucose. The thiosulphate of sodium or calcium should be used in the treatment of toxic effects. The author states that by observing these precautions, intensive courses can be tolerated just as well, if not better, than weaker doses, because the spirochaetes are more quickly paralysed without being first stimulated and because toxic decomposition products are more rapidly eliminated from the blood stream. The review of patients treated by the author during a period of many years has shown that even where the dosage has been below the maximum, permanent cures have been effected. This means that small deviations from the scheme do not necessarily prevent a lasting removal of clinical signs and the obtaining of a permanently negative serum and spinal fluid reaction. But this should not lead to a reduction in the dosage previously described, since it is desirable to force a cure in all fresh infections in as short a time as possible. From four to six and a half months is the time usually required when the maximum two or three course system is employed, and a permanent cure will then frequently be achieved even in older cases of secondary syphilis. Whether longer courses lasting eighteen months or more, and in which alternating and weaker doses of the drugs mentioned are used, produce similar results is more than doubtful.

Preparation "2020".

F. A. JONES (*The Lancet*, January 20, 1938) discusses preparation "2020", a drug which in some respects resembles adrenaline. In man, it appears to act predominantly on the smooth muscle of the blood vessels and skin, producing a rise in blood pressure, pallor and goose-skin. Clinical trial has demonstrated its pressor effect. After injection there is a sharp rise in the blood pressure with a gradual fall to the original level; 0.1 gramme administered intravenously causes a rise of 30 to 80 millimetres of mercury, the total effect lasting about thirty minutes. There is also slowing of the pulse, which may outlast the pressor effect. There is considerable variation in the degree

of response of different individuals, and even the same patient on different occasions. The preparation can be given orally and intramuscularly as well as intravenously. Atropine will abolish the slowing of the pulse without affecting the pressor action. The dose recommended is 0.1 gramme intravenously, 0.2 gramme intramuscularly, and this has been proved by cautious and extensive clinical trial to be quite safe. The chief clinical use of this new preparation is its administration during spinal anaesthesia, when the blood pressure may fall considerably even after the intramuscular administration of ephedrine. It may also be advantageous to use it instead of ephedrine at the time of administration of the anaesthetic. Its value in surgical shock is not yet proven. Its action on the bronchial musculature renders it of some value in asthma, but it appears to be inferior to ephedrine; it may be useful when ephedrine is contraindicated or inactive. It has little action on the smooth muscle of the alimentary or urogenital tracts.

Treatment of Haemoptysis.

F. G. CHANDLER (*The Practitioner*, April, 1938) describes the treatment of haemoptysis. He states that the patient with haemoptysis should lie at rest in the position in which it is most easy to get rid of the blood that comes into the mouth. It is in his opinion a mistake to make the patient lie flat on his back. An injection of 0.01 gramme of morphine should be given; a larger dose may permit the aspiration of blood into other bronchi, with flooding of the lung. An ice pack applied to the chest may help to reassure the patient. An intravenous injection of five cubic centimetres of a 10% solution of calcium chloride may be given, but since this is highly irritant if it escapes into the tissues; a 10% solution of calcium gluconate, injected either intramuscularly or intravenously, is to be preferred. Intravenous injection of 10 cubic centimetres of a 1% solution of Congo red is also advised. Injections of these substances may be repeated at intervals of three or four hours. It has been said that half a teaspoonful or more of common salt in water, given by mouth, is sometimes effective. Other drugs that have been used are ergot, in doses of four cubic centimetres three or four times a day; emetine (0.05 gramme hypodermically) or oil of turpentine, in doses of 1-2 cubic centimetres, given orally every four hours.

Vitamin B.

R. GOODHART AND N. JOLLIFFE (*The Journal of the American Medical Association*, February 5, 1938) describe the effects of vitamin B₁ therapy on the polyneuritis of alcohol addicts. Vitamin B deficiency has recently been shown to occur in the dietary of patients subject to alcoholic

neuritis. Relief from the neuritis has been produced by increase in the vitamin B intake of the patient. In this study patients suffering from mild alcoholic polyneuritis were divided into two groups. To one group a weighed diet was given containing 18 grammes of unheated "Vegex", approximately four times the vitamin B requirement of a subject weighing 60 kilograms. Patients in the second group were given intravenous injections of 10 milligrammes of crystalline vitamin B₁ dissolved in two cubic centimetres of normal saline solution. All showed improvement in regard to both motor and sensory symptoms, but the improvement was much more marked in the second group of patients. One patient who suffered from mental disturbance and alcoholic cirrhosis of the liver in addition to neuritis improved remarkably in all respects; this suggested that cirrhosis of the liver might not interfere with either absorption or utilization of vitamin B. The motor symptoms of neuritis were not always improved by vitamin B. One patient was given up to 50 milligrammes of crystalline vitamin B₁ daily, with a total dose of 800 milligrammes in 43 days, without evidencing any marked signs of improvement.

NEUROLOGY AND PSYCHIATRY.

Continuous Narcosis in the Treatment of Mental Disorder.

HAROLD A. PALMER (*The Journal of Mental Science*, November, 1937) in an extensively documented review of the subject of prolonged narcosis finds that this form of treatment is of value in a psychiatric clinic. He gives consideration to the various methods used in achieving continuous narcosis and contributes his own experience in the use of "Somnifaine". He describes in detail the nursing of patients treated by continuous narcosis, the risks involved and the danger signals observable in routine treatment. In a series of fifty cases, which included both neurotic and psychotic patients, he obtained approximately 33% recoveries. Psychotics with affective disorders appeared to obtain the greatest benefit from the treatment. He aimed at keeping his patients asleep for from eighteen to twenty-two hours each day for a period of ten consecutive days. He observes that the treatment is not without danger, although no fatalities were recorded in his series. He believes that the life of the patient may be properly safeguarded if due attention is given to certain danger signals, and he recommends that special attention should be paid to temperature, pulse, respiration and blood pressure, and that paraldehyde should be used to supplement the effects of "Somnifaine" when necessary. He was unable to substantiate the claims of Ström-Olsen and others

as to the value of insulin and glucose as adjuncts to this treatment. He doubts whether the treatment owes its effect to the specific action of barbiturates and notes significantly that patients do best who would have in any case a reasonably good prognosis. He uses "Cardiazol" and "Coramine" as restoratives when necessary, and emphasizes the necessity of giving an adequate quantity of fluid during the treatment. This should be not less than three pints during the twenty-four hours, and the amount of fluid excreted should be at least two-thirds of the intake.

Treatment of Epileptic Psychotics by "Prominal".

D. E. SANDS (*The Journal of Mental Science*, November, 1937) has made extensive experiments in the treatment of epileptic psychotics by "Prominal", and compared the efficiency of this drug with that of phenobarbitone and that of bromide. The dose of "Prominal" has to be varied to suit individual needs, but generally speaking a dosage of 0.4 gramme twice a day was well tolerated by those whose seizures were frequent, while 0.2 gramme sufficed in the milder cases. The author found that this dose neither caused drowsiness nor impaired the working capacity of patients. In estimating the effect of "Prominal" the following factors were taken into account: the number and type of seizures, the behaviour, physical health and capacity for work of the patient, and the toxic effects and duration of effect of the drug, and also variations in the leucocyte count. The author states that treatment with "Prominal" reduces the number of seizures, improves the mental and physical state of the patients, and in those of occupational capacity increases the output of work. Patients with advanced psychoses, however, were not benefited by "Prominal".

Tumours of the Tuberculum Sellæ.

ROBERT A. GROFF (*The Journal of Mental Science*, June, 1938) gives a detailed clinical description of tumours of the tuberculum sellæ. He states that a history of failing vision, the findings of irregular bitemporal field defects associated with primary optic atrophy and a normal sella turcica in a patient of middle age constitute the clinical picture presented by these tumours. He notes that such growths may cause few subjective and objective signs. Lesions which should receive consideration in differential diagnosis are primary tumours of the stalk, tumours of the lesser wing of the sphenoid, primary pituitary adenomata, congenital pituitary tumours, chronic arachnoiditis and pseudo-tumours and tumours of the optic chiasma, and aneurysm. The signs indicative of these lesions are considered in detail. Three typical cases are reported, in

each of which microscopic examination of the tumour after operation showed it to be a typical meningeal fibroblastoma. Attacks of vertigo accompanied the progressive loss of vision in each case recorded here. Surgical relief is not considered possible if the tumour involves the region of the third ventricle.

Post-Operative Psychoses.

MILTON M. ABELLES (*The American Journal of Psychiatry*, March, 1938) presents a study of the mental disorders which at times follow surgical operations. Twenty-three patients are described, their ages ranging from seventeen to seventy-three years. The nature of the operation and the type of anæsthetic employed are also considered. The commonest type of mental disorder after surgical operation is that known as the toxic-exhaustive syndrome. It is found significant that a large percentage of mental disorders follow operations upon the genital organs and the thyroid gland. In general, auditory hallucinations predominate in the symptomatology, and next in order of frequency are paranoid delusions. The author is of the opinion that no single factor is responsible for the development of post-operative psychosis. It is believed that the operation merely precipitates a psychosis in a pre-disposed person. Among the purely psychogenic causes connected with operation are morbid fears of death and mutilation. Organic factors, such as infection, endocrine disorders and nutritional disturbances, also play a part in the production of the psychotic states which sometimes follow operation. The author emphasizes the pre-operative care of the patient as a means of preventing the onset of a mental breakdown, and censures the surgeon's eagerness to proceed with operations without due regard to the patient's emotional state, previous mental history or adequate for operation preparation.

Diagnostic Validity of the Rorschach Test.

JOHN D. BENJAMIN and FRANKLIN G. E. BAUGH (*The American Journal of Psychiatry*, March, 1938) give a detailed criticism of the application of the Rorschach test in psychiatric diagnosis. They have applied the test in fifty psychiatric cases, and present an interesting statistical comparison between the Rorschach diagnosis and the clinical diagnosis. They believe that the test has a practical clinical value, that it yields theoretical contributions to the study of the structure and functioning of the personality and that it shows great possibilities as an additional instrument in specific psychiatric research. They find from actual investigation of cases that the Rorschach test is of great value in diagnosis.

Proceedings of the Royal Commission Appointed to Inquire into Matters Pertaining to National Health Insurance.

WHEN the Royal Commission resumed sitting on August 9, 1938, Mr. G. Williams announced his appearance on behalf of the Friendly Societies' Association of New South Wales.

The examination of Mr. J. B. Brigden was continued. Extracts of the evidence of particular interest to medical practitioners appear below.

Mr. Dovey: I have been informed that since the adjournment yesterday Mr. Brigden and certain representatives of the British Medical Association have conferred, with the assistance of Dr. Mulvey, and as a result Mr. Brigden is now in a position to amplify to some extent the statement marked Exhibit A, setting out the scope of medical service proposed by the Insurance Commission.

The Chairman: I think it would be better for the terms of any such agreement to be reduced to writing and presented to the Commission in the form of an exhibit.

Mr. Brigden: I thought it would be helpful to the Commission if I explained the position reached.

The Chairman: Then the exact terms have not yet been settled?

Mr. Brigden: We wish to avoid precise terms. We do not think that it is necessary to have so much precision.

Mr. Dovey: Would it be convenient to have prepared at an early date a statement setting forth what is now regarded as the proper scope of medical service in substitution of the statement already before the Commission?

Mr. Brigden: I shall do that.

Mr. Abrahams: I have already suggested to the Commission that when the regulations in respect of medical service are gazetted it is important that they should not deviate materially from the statement of service upon which the Commission bases its findings regarding the capitation rate. Any material deviation might seriously affect the value of the Commission's finding. Mr. Brigden recognizes that because he says in his evidence that no amendment, except of a very trivial character, will be made until after consultation with the parties concerned. All parties agree that it is desirable to have precision, leaving open only such minor matters as may be found to require amendment in the light of experience. That being so, it does appear desirable to have something before the Commission in writing, and in reasonably precise terms, so that after the Commission has made its finding there will be an opportunity to interpret the undertaking given by the Commission that any departures will be of only a trivial nature.

Mr. Dovey (to witness): In paragraph 17 of your evidence you state that the practitioner will also be required to comply with any reasonable request by the Commission for prescriptions for the purpose of testing drugs or appliances. Will you explain what is meant by that?

A.: The Commission will need to test prescriptions as dispensed by insurance chemists from time to time and from place to place.

The Chairman: Is it the intention of the Insurance Commission that it should be in a position to test the way in which prescriptions are made up by insurance druggists?

A.: Yes, in order to test the quality and efficiency of the material supplied by the druggist we wish that sample prescriptions be prepared from time to time to be filled by the chemists.

The Chairman: It does not mean that you are to exercise any sort of supervision over the way in which medical practitioners prescribe for patients?

A.: No.

Mr. Dovey: It means that you might go to a doctor and ask him for a prescription for a cough mixture, for instance, get it made up by a chemist, and then have it tested for efficiency and quality?

A.: Yes.

Q.: In paragraph 18 you state that the practitioner shall not himself supply drugs, except in special circumstances where supplies may not otherwise be available, but that it will be his duty to provide any drugs or appliances urgently required for immediate use. You further state that insurance practitioners will receive separately payments additional to the capitation fee for all drugs and appliances supplied to insurance patients. I take it that that indicates that the capitation fee is for medical service only?

A.: Yes.

Q.: Has the Insurance Commission yet determined any method or scale of payment for drugs and appliances?

A.: Not yet.

Q.: But it is the intention of the Commission to make payments for these things on a reasonable basis?

A.: That is so.

The Chairman: We had better understand that in arriving at whatever amount we fix under paragraph 1 of the order of reference, we shall arrive at an amount which will not cover drugs and appliances supplied by a medical practitioner.

Mr. Dovey (to witness): I understand that there will be under the control of the Commission a medical services account?

A.: Yes.

Q.: And one way in which it is to be distributed is the capitation rate for insured persons for medical services, which was originally calculated at 11s.?

A.: Yes, we shall come to these accounts presently.

Mr. Brigden tendered a draft of a proposed medical card. This was labelled Exhibit D.

Mr. Dovey: The card contains space for instructions to insured persons?

A.: Yes, and to the practitioner where necessary.

Q.: In Part (a) the insured person is asked whether he wishes to be placed on a doctor's list. That is to be filled in by the insured person, I presume?

A.: Yes.

Q.: And Part (b) provides for changing from one practitioner to another?

A.: Yes.

Q.: In the third column there is reference to mileage? A.: That is to be filled in, showing the distance from the nearest practitioner.

Q.: There is also a reference to drugs. I understand that that applies to districts where no chemist is available?

A.: That is so.

Q.: I understand that the card must be taken by the insured person to the doctor?

A.: Not necessarily. The doctor will have cards himself.

Mr. Abrahams: The card must bear two signatures, and it is to be lodged with the Commission?

A.: The doctor will send it to the Commission immediately he endorses it. The doctor will keep another record of the patients on his list.

Q.: But when the insured person wishes to transfer from one doctor to another his card will be at the office of the Commission, will it not?

A.: No, the insured person will have the card in his custody. The card will go from the doctor to the Commission, and the Commission will send it to the insured person, who will keep it.

The Chairman: In the ordinary course, will the insured person have to take his card to the doctor when he consults him?

A.: No, but if the insured person is leaving the district, or wishes to see any insurance practitioner other than the one on whose list he is, he will have to produce his card.

Dr. Mulvey: The doctor will keep a record of attendances and a short history?

A.: That is so.

Mr. Dovey: In paragraph 19 you state that a practitioner will also be responsible for treating any insured person who may temporarily be in the district and who applies to him for treatment. Does that mean whether the insured person presents his card or not?

A.: If he satisfies the insurance practitioner that he is an insured person, he can get treatment.

G.: You state in paragraph 28 that practitioners will be required to visit and treat patients whose condition requires that service, at any place where the patient may at the time be, within the district served by the practitioner. I take it that they will be required to visit and treat everyone on their list?

A.: A practitioner will not be required to travel outside his district, either for patients on his list or for itinerant patients. A doctor may take on his list an insured person from another doctor's district if he chooses, but he will not be paid mileage if he goes into the territory of another doctor. He will receive only the same mileage as would the doctor who is nearest the patient.

A specimen of the British form of certificate (Exhibit E) and a clinical card (Exhibit F) to be kept by the medical practitioner were tendered by Mr. Bridgen.

By Dr. Mulvey: In regard to paragraph 35, is there any appeal against the decision of that tribunal?

A.: There will be under the ordinary law; there must be, I take it, under the ordinary law.

Dr. Mulvey: The position in the Act is that there will be no appeal against the decision of the tribunal.

Mr. Dovey: So far as my examination goes, no statutory provision is made in that respect. The only sanction so far as the Commission is concerned is to remove the practitioner's name from the list of insurance practitioners.

Dr. Mulvey: Is there any appeal against that?

Mr. Dovey: No, not given by the Act.

The Chairman: And it is doubtful if he could have recourse to a court of law. He accepts the position of insurance practitioner subject to the conditions existing at the time, and if those conditions make a decision of this tribunal final that ends it so far as he is concerned.

The Chairman: The question whether this Commission should take into consideration the limits of the fund available for all the purposes of this Act, and the manner in which the portion of that fund can be applied, or adjusted in their application, and also the question whether we should consider the possibility of that fund being subsidized by a government grant or something of that kind, are somewhat difficult, and it may be suggested that we have no right to consider those questions. I understand that Mr. Abrahams, in substance, is suggesting that all we are concerned with under the terms of our Commission is, what is a fair and reasonable thing, having regard to ordinary practice in Australia and the rates of pay for medical services—what is a fair thing to be given, as a capitation rate to the doctors apart from any consideration of the fund or limits of the fund from which that payment is to be made. It is suggested on the one side that we should not pay any attention to the fund, and on the other, that we have to bear in mind the limits of that fund. It may be desirable that that should be argued out at an early point in these proceedings so that we can give a ruling upon it. Whether it is desirable to argue it out at once or whether counsel desire a little more time to consider it is a matter for counsel.

Mr. Dovey: Personally I should think it would not be desirable to argue it out at once. It is a matter which requires a good deal of consideration. I had not intended to convey in my earlier remarks that the Commission

should be bound strictly by the limits of the moneys made available under the Act by way of contributions by employers and employees on the one hand, and out of consolidated revenue on the other; but what I did then urge, and now continue to urge, is that the Commission in making a recommendation as to the figure which would provide for a fair remuneration for medical practitioners in this great national scheme must have regard to the ability of the community generally to bear any additional burden which might be placed upon it by way of additional contributions from employers and employees on the one hand and the taxpayers on the other.

The Chairman: Let us get clear in our minds what is the present law on the matter. As I understand it, the position is this: that certain statutes of the Commonwealth impose compulsory payments upon employees, in round figures of 1s. 6d. per insured person, and a corresponding compulsory payment of 1s. 6d. upon employers, making a total of 3s. per insured person. That primarily is the fund, and the only fund, from which pensions, sickness benefits and medical benefits are to be paid.

Mr. Dovey: That, together with the amount expressly appropriated to the fund by section 114.

The Chairman: That is the Commonwealth subsidy which is a definite amount appropriated by that section. So that we have the total fund made up in this way: the contributions from employees, those from employers, and the appropriations under this section; nothing more. The amount is defined and until the law is altered no other funds can be made available in any way whatever, so that if the Insurance Commission exhausts this fund, and has further obligations, it is broke. This is briefly the question we have to deal with: are we to take into consideration the possibility of this Insurance Commission becoming broke as the result of an attempt by us to fix the capitation rate at such an amount which, in view of the present funds available, will not be sufficient. Are we to take that into consideration?

Mr. Dovey: I would not contend for that in those bald terms. It seems to me if, after full discussion of the matter, this Commission came to the conclusion that, for example, there should be a rate of 20s. per head paid into the insurance fund, then that would be an indication to the Government of the Commonwealth that it should make the necessary provision in that respect. The Government should bring down legislation to make provision for such sums necessary to meet the cost. But I do not propose, as at present advised, to argue that this Commission would be bound to make its findings on the assumption that there was a certain sum and no more available and that we could not go beyond the limits of that fund; but I propose to argue that the Commission should take into consideration the amounts that have been appropriated by the Commonwealth by way of subsidy and the contributions fixed in respect of employers and employees, and inquire, among other things, as to the ability of the community to bear any additional burden. This is plain.

The Chairman: That is a very big question. The ability of the community to pay is a question with which I am rather familiar in my other functions. The expression is constantly thrown at me; but no one is able to measure, with anything like precision, the ability of the community to pay anything. It is quite impossible to arrive at anything like an exact measurement in that respect. Instead of proof you get assertions such as "we are living in the midst of plenty and you are starving us in the midst of plenty". That is the common form, and quite possibly a medical man might well say "we are living in the midst of plenty and therefore we should get a liberal rate". As a matter of fact, plenty has to be proved; it has never been proved that there is plenty; it is all assumption. So when you ask us to measure the ability of the community to stand anything it is something we cannot do.

Mr. Dovey: May I suggest that as the evidence which is at present available will be evidence on behalf of the Insurance Commission, and no evidence will be offered on behalf of the medical practitioners till later in the

month, this matter might be left to stand over until we resume after our adjournment. It is undesirable, I confess, from my friend's point of view and from my own, to address an argument at this stage. Certainly I am unable to adduce any proof in support of one of my submissions at this stage.

The Chairman: The matter had better stand over. I do not think we can hope to get a prepared argument which would enable us to give a ruling right away. However, I call your attention to the matter, which I may say is occasioning some difficulty to members of the Commission.

Mr. Dovey (to witness): You say in paragraph 48:

The first principle is that a certain uniform sum shall be credited to that fund in respect of every insured person regardless of his age or of his qualifications for cash benefits. The person becomes insured immediately he enters upon insurable employment, and a contribution is made in respect of him and a stamp is affixed to his contribution card. It is of importance to note that once a person becomes insured he is entitled to medical benefit, and will not fall out of insurance for a prolonged period, which may extend from 18 to 21 months. This is a very important consideration, both with respect to the computation of the fund and with respect to the remuneration of individual practitioners on whose lists there may be persons who are unemployed or have left insurable employment.

Will you amplify that last sentence a little?

A.: An insured person may lose his other rights gradually by failing in his requisite qualifications and contributions, but he will not lose his rights in respect of medical benefit notwithstanding the fact that he may be unemployed for some considerable time or may even have gone out of insurable employment; that is to say, he may have gone into employment in some occupation which is not covered. The object is to maintain his rights in respect of medical treatment as long as possible.

Mr. Abrahams: You say "this is a very important consideration" in two aspects. Why is it important?

A.: It is important to the medical practitioner for the reason that the capitation rate will be based, not on the number of people who will be contributing to the scheme, but on the number of people who are entitled to medical benefit under the scheme, which may be a very much larger and much more stable figure.

Dr. Mulvey: I understand that the average insured person will be a person that is not getting an invalid pension?

A.: He must necessarily be in employment.

Q.: You understand that only totally and permanently incapacitated persons are entitled to invalid pensions?

A.: I understand so.

Q.: So that the insurance scheme will cover all of that kind who do not come within the category of totally and permanently incapacitated persons?

A.: It will cover persons who in the future may become totally and permanently incapacitated, but it will not cover those who are at present in that condition, because only employed persons may be insured.

Q.: But a person may be incapacitated and yet engaged in some sedentary occupation, such as driving a lift for example?

A.: Some kinds of employment will be excluded because those in such employment will have other major employment in respect of which they will be insured. Exclusion will be in respect of classes of employment, not of individual persons.

Mr. Dovey: The first part of the first schedule of the Act deals with insured persons in insurable employment, and the second part contains the exceptions, setting out those persons who, though in employment, will not be insured.

Dr. Mulvey: I cannot understand the statement that less treatment will be required under the insurance scheme than under the friendly societies scheme?

A.: We understand from the information we have received that the wives and children of friendly society members need and get more treatment from lodge doctors than do the members themselves. We cannot put any measure on that, and I am not inclined to give a great deal of importance to it; but I suggest that if there is any difference in the treatment needs of the man himself and of the members of his family, he needs less than they do.

Q.: That is not my point. A friendly society patient is one who has been passed as fit to be accepted by the society, whereas under the insurance scheme there will be no preliminary examination for fitness. A chronic invalid might be insured?

A.: All insured persons must be employed, and the fact of their employment may be taken as some indication of their fitness.

Q.: But it does not follow that because a person is in employment he is necessarily physically sound?

A.: I suggest that if it is desirable to make a comparison inquiries to that end might be pursued separately. I do not know to what extent either the preliminary examinations or any subsequent examinations are substantial.

Mr. Dovey: I understand that there are no subsequent examinations?

A.: Yes, and I do not think that there is any examination of wives and children of members of friendly societies. It is suggested that the examination of a lodge member himself when perhaps he is a young man is no criterion by which to judge the treatment needs of his wife and family later on.

Dr. Mulvey: But his wife is examined also?

A.: Not invariably, I understand.

The Chairman: Is that so?

Mr. Williams: She can be called upon to be examined, though the examination is not always insisted upon.

The Chairman: What is the ordinary practice?

Mr. Williams: I am instructed that almost invariably wives are examined. Friendly societies provide another benefit, namely, a mortality benefit, and the societies themselves insist on an examination before the wife is entitled to that benefit.

Mr. Abrahams: Mr. Brigden said that from his information it appeared that members of friendly societies required less treatment than did their wives and children; but I do not see the significance of that.

The Chairman: I suppose the significance is that under the rate of 29-2s. for a member and his dependants the wife and family should be paid for at a higher rate than the 9s. odd each, while the man himself, if he were treated separately, would be paid for at a somewhat lower rate.

Mr. Abrahams: The other point upon which I should like further information is this: It is stated that the average age of insured persons would be about thirty-two years, while the average age of male members of friendly societies is about forty years. I should like to know whether an average age has been computed of the persons who really require treatment under the friendly societies scheme, in view of the fact that the treatment of children would probably bring that average age down even below the thirty-two years. In order to make a comparison it would be necessary to determine the average age of the wives and children. Has anything been done to work out such an average?

Mr. Dovey: Speaking offhand, I do not think that anything of the kind has been done. When one is dealing with males, the sickness risk is likely to be less in the case of those insured under the national scheme than in the case of male members of friendly societies. Moreover, experience has shown that the wives and children of insured persons require on an average more service than does the man himself, so that perhaps the figure of 3-2 ought to be weighted in some measure. That will be dealt with more fully by Mr. Green in his evidence.

Mr. Dovey: Would you explain your statement in paragraph 70?

A.: The 11s. is at least 6d. more than persons representing the Government thought necessary for the service at the time; but in view of the general considerations, very much pressed upon the Commission and the Government—the necessity for good will, good working service, a contented medical service—we were influenced to agree to the 11s.

Dr. Mulvey: Will Mr. Bridgen explain paragraph 86, which reads:

It may be noted that in the course of travelling an insurance practitioner will usually visit a number of patients for treatment, and that some of these patients will be outside the range of insurance service. The mileage actually covered, especially for each insurance patient, will be much less than the mileage upon which it is proposed to base the payments now to be discussed.

In a country call, the only persons who know of the call are the patient and the doctor. How will the doctor visit some other patient not in that district?

Mr. Bridgen: I take it that the doctor ordinarily goes away to some part of his district daily and that he will receive notice in the morning, according to the conditions of service. He will be able to fit in that visit with his normal visit and it will not be entirely a special visit. It may take him out of his course some little distance, but he will usually be able to fit it in as a part of his day's work.

Mr. Dovey: I think I can show what Mr. Bridgen has in mind. Take, for example, a centre with which Dr. Mulvey is familiar. There are quite a number of settlements within ten or twelve miles of Bathurst in which there is no medical practitioner and it will be necessary for medical practitioners to visit insured patients. On any one journey it may very well be that the medical practitioner, in the course of his ordinary duties, will attend more than one patient. The mileage rates, therefore, as will be seen later, have been assessed by the Insurance Commission on the assumption that every insured person on the doctors' lists will be visited once a year at his home. That is based on the English practice. I think the point which Mr. Bridgen is seeking to make is that that is a generous allowance on the part of the Commission, because on each visit it does not follow that only one patient will be treated; the medical practitioner will not make a trip of, say, ten miles necessary to treat only one patient.

Dr. Mulvey: That is the usual practice in the country: to visit one patient. No other calls are made beyond the ten-mile limit, except urgent calls.

The Chairman: In the ordinary course of an urban practice a complaint which keeps a man or woman in bed for a considerable time would cause the family medical man to visit the patient perhaps twice a week. Is not that the case in the country?

Dr. Mulvey: Not beyond the three-mile radius.

Mr. Dovey: It has been calculated in England that an insurance practitioner visits insured persons 0.76 time a year. Many of these visits would be rendered necessary in order to give certificates in accordance with the scope of his service, for sickness and disablement benefit. It is in that regard, I think, that Mr. Bridgen is suggesting that it would be likely that an insurance practitioner who had a number of people on his list in regard to whom it was necessary to give a certificate would find it convenient to visit at the one time.

Mr. Abrahams: I do not understand what is meant by the reference to pensioners in paragraph 107.

Mr. Dovey: Under the Act the pensions scheme comes into operation in five years' time. Up to then no pensioner will be an insured person.

Mr. Abrahams: Something seems to cancel something else?

A.: We expect that in the first year or two the inauguration of this scheme will put the doctors to some trouble. We think that they are inclined to exaggerate the amount of book-keeping involved and that some of them do not

now keep the simplest books. We think that all will get into the habit of doing that. At the beginning there will be some little interruption. On the other hand, they will have no pensioners during the first five years. The Act provides that old-age pensioners who are insured persons, not the present old-age pensioners, as they qualify for the pension, are entitled to medical benefit for life, and the doctors in five years' time will be called upon to give medical service to these old-age pensioners. I suggest that those two considerations cancel out. The doctors will have some difficulty as they get used to the scheme, and they will pick up the liability of looking after old-age pensioners five years hence.

Mr. Dovey: Is it the intention of the Insurance Commission that the old-age pensioners should be looked after by the medical practitioners without additional payment?

A.: In five years' time, when old-age pensions mature, yes. When those pensioners become entitled to medical benefits I cannot say what the Commission of that day will expect the doctors to do; but I say now "yes, they should do that for the same capitation rate".

Mr. Dovey: Of the statement which has been prepared by the Chairman on behalf of the Insurance Commissioners the only part that has not been read is an extract from THE MEDICAL JOURNAL dated May 14, 1938, which was referred to in my opening remarks. It appears at pages 30, 31 and 32 of this document, Exhibit B. It seems to me that this is one of the matters relevant to be considered by the Commission, in that it purports to be the expressed opinion of the body which Mr. Abrahams represents here today. Such opinion was expressed at a very recent date, and for that reason I formally tender that article.

Mr. Abrahams: I do not appear for THE MEDICAL JOURNAL OF AUSTRALIA, or the proprietor or editor of it. So far as I am concerned, I appear for the British Medical Association in Australia, and I do not accept responsibility for the views of the journalist who wrote that article.

The Chairman: I do not know whether Mr. Dovey is suggesting that it is your article.

Mr. Dovey: I do not know; I propose to find out.

The Chairman: There is one article dated April 16, which was published at the request of the Federal Council of the British Medical Association in Australia.

Mr. Dovey: And the next one is dated May 14, 1938. I am told—I do not know whether Mr. Abrahams disputes it or not—that this journal is the official organ of the British Medical Association. Of course, I can readily appreciate that the Association as an association would not be responsible for correspondence or the opinions of contributors expressed therein; but one would imagine that the leading article which appears in the same journal would be some evidence of the opinion held by the Association. However, I can say to my friend now, if he takes up that attitude at this stage, that we propose to ascertain the exact standing of this journal and the identity of the author of the article, and we propose, if necessary, to examine him before this Commission. Does Mr. Abrahams still object to this article being tendered.

Mr. Abrahams: I do.

Mr. Dovey: I press it for what it is worth. It seems to me that this is evidence of a character similar to that discussed quite early in the proceedings, namely, the notes of proceedings between the Commonwealth Government and the Executive Committee of the Federal Council of the British Medical Association.

The Chairman: As to the first article, that dated April 16, assuming that it is taken as proved that the statement was published at the request of the Federal Council of the British Medical Association, and assuming that he had the authority of that council to make that request, then I think it would be in the same position as the other matter which we have admitted, not as legal evidence, but a hearsay statement of the opinion of persons who might be regarded as conversant with the matters they speak of.

I am inclined to think that the first article would be admissible here for our purposes to the same extent as the other material. But as to the second article, that may have been written by some editor who is not a medical man or who is not in practice.

Mr. Dovey: We shall, if necessary, find out all those things.

The Chairman: Then, supposing you show it was written by a medical man, should we admit it without knowing more than that. With regard to the other material, that is, on the face of it, something like the expression of opinion of the Federal Council of the British Medical Association, whose names are attached or shown. So we might fairly say here we have these men of eminence in our profession who may be presumed to be capable of speaking as experts concerning these matters, and they make these statements. It is true it is on hearsay, but still it is a statement very relevant to the matters we have to consider, made by experts, but I do not know whether you can say the same about the document dated May 14.

Mr. Dovey: An examination of that document itself indicates quite clearly that it was written by some person who took part in the deliberations.

The Chairman: That does not follow. It may be that some ingenious man of journalistic competence may be able to produce such an article. The probability is, of course, that it was written by some person of eminence or prominence in British Medical Association affairs. Unless it is shown to have been written by someone who could fairly be regarded as an expert concerning this sort of thing, I do not think we ought to admit it.

Mr. Dovey: It would appear to have been written by someone who took part in the negotiations, and if that be so, it should be on the same footing as the other material.

The Chairman: It was either written by some such person or inspired by some such person.

Mr. Dovey: I thought it would be convenient for my friend if it were tendered now, as my friend has stated that he is anxious to assist the Commission on behalf of his clients. I thought he would find it convenient to have it read at this stage, since we have it here in print; but if my friend persists in the attitude he adopts, then for the moment I withdraw tendering the article, and will take steps to ascertain what the journal really is and who the author is, and I shall have him called as a witness before the Commission.

Mr. Abrahams: I hope the Commission does not think that I am obstructing. It is considered that this is irrelevant. This Commission was appointed to find out the capitation rate because the specialists, as gentlemen not fully in touch with the general practitioners, came, as Mr. Bridgen said, to an agreement whereby they undertook to submit something to the general practitioners, and the general practitioners declined to adopt what was thus submitted.

The Chairman: I do not know about that. Supposing Mr. Dovey does find out the gentleman who wrote, or authorized, this article had subpoenaed him, and it turns out that he is a medical man of experience and able to speak with authority concerning the matters dealt with in the article, and in the witness box oral evidence is obtained from him in the form of statements of the kind which appear in this article, would that not be relevant evidence?

Mr. Abrahams: When that position arises Your Honour no doubt will give me an opportunity to be heard.

The Chairman: Apparently you do not feel inclined to answer. If evidence given in that way would not be relevant, I anticipate that a lot of the evidence which you will tender will equally be irrelevant.

Mr. Abrahams: Some arrangement of some sort was made to submit a proposal to the general practitioners; that was come to in Canberra and the general practitioners did not approve.

Mr. Dovey (to witness): Is there anything else which you desire to say in chief at this stage?

A.: There is one point. Mr. Abrahams remarked just now that the agreement we are discussing referred to terms that might be offered to general practitioners. That is perfectly true. I should like to point out, however, that this agreement was reached with a body appointed by the British Medical Association especially for that purpose, representing all States. In coming to that agreement we understood that they had the authority of the Association to draw up an agreement embodying a scheme which could be offered to the whole of the profession with the authority of the British Medical Association.

The Chairman: You took it that they were there to bind the members of the British Medical Association?

A.: To bind the British Medical Association as such; to endorse a scheme which could be offered to the individual members of the Association to take or not.

Dr. John George Hunter was sworn and examined.

Dr. Hunter was questioned concerning the constitution of the Federal Council and the appointment of the executive committee of the Federal Council.

Wednesday, August 10, 1938.

The examination of Dr. J. G. Hunter was continued.

By Mr. Dovey: At the adjournment yesterday I asked you for the name of the person who wrote the article appearing in THE MEDICAL JOURNAL of May 14, and you asked for permission to consult with Mr. Abrahams. You have now had an opportunity to do that, and I ask you the question again.

A.: The editor of the journal wrote the article; he is Dr. Mervyn Archdall.

Q.: Is he a member of the Council?

A.: No.

Q.: Did he write the article after consultation with you?

A.: No.

Q.: Do you remember where Dr. Archdall got his information from?

A.: From the President, Sir Henry Newland, as to what happened at the proceedings in Melbourne.

Q.: Is this journal the official journal of the British Medical Association?

A.: It is not stated on the journal, nor has it ever been publicly stated that it is.

Q.: Is it in fact?

A.: It is not controlled by Branches of the Association at all; it is controlled by a corporate body quite independent of the Federal Council, namely, the Australasian Medical Publishing Company. The Federal Council has no say in its control or in the election of the board of control. The members of the company are nominated by their respective Branches. There are three nominees from each State, but the Federal Council has most say in nominating any representative to that body.

Q.: It is a journal which is controlled by elected representatives from the various State Branches throughout Australia?

A.: Yes.

Q.: Is it not in the profession regarded as the official journal of the profession in contradistinction to the journal known as *The General Practitioner*?

A.: Yes; I think it would be regarded as the journal of the Association, but it has never been published officially that it is. *The British Medical Journal* is the official journal of the Association all over the world.

Q.: In the Memorandum of Association of the Federal Council of the British Medical Association in Australia the duties of the Federal Council are shown to be, among others, that it shall be a medium for communicating with the British Medical Association on behalf of the Branches thereof collectively in Australia, and also it shall be the means of communicating with the Government of the Commonwealth on behalf of the Branches collectively, and when required to do so to make such arrangements as deemed fit on behalf of the branches?

A.: That is so.

Q.: It was in pursuance of that power or duty that the executive council was set up for the purposes disclosed in the minute read a while ago?

A.: Any question that comes before the Council in which the Branches are affected is practically invariably referred back to the Branches before the Federal Council comes to any decision whatsoever.

Q.: I gather that after the conference was held in Melbourne with the representatives of the Government the members of the executive asked or suggested an adjournment until they had had an opportunity to consult the Branch councils?

A.: Yes.

Q.: And I take it that was done?

A.: Not in all cases.

Q.: At any rate the conference resumed in Sydney in March?

A.: Yes.

Q.: Dr. Archdall attends the meetings of the executive?

A.: He is invited to all meetings of the Federal Council and every meeting of the Council of the New South Wales Branch.

By the Chairman: You say that after the first negotiations in Melbourne the members of the council, or the committee, which had taken part in the negotiations intended to refer the matter to their respective Branch councils but did not do so in all cases. Did they do so in any case?

A.: In some cases, yes; I do not know exactly how many were consulted. I think Victoria and Queensland were consulted; New South Wales was not fully consulted.

By Mr. Dovey: Was New South Wales consulted at all?

A.: Not officially.

Q.: Officially or unofficially?

A.: No, not as the council of the Association.

By the Chairman: Was it the intention, so far as you know, that there should be some official convocation of the Branch councils for the purpose of placing the then position reached in the negotiations before them, or were they merely to be mentioned in an informal way to the members of these Branch councils? Was it the intention to inform them in any way at all, either formally or informally, of what had happened up to that stage in the negotiations with the representatives of the Government?

A.: That was done, I think, by the representatives of some Branches. In the case of the New South Wales Branch the view taken was that the representatives who attended the meeting with the representatives of the Government were pledged to secrecy and it would be unwise to discuss the matter even with members of the council of the Branch.

Q.: Pledged to secrecy by arrangement with the parties in the negotiations?

A.: Yes.

Q.: If that be so, it is rather difficult to see how they could discuss the matter with the members of their Branch councils; surely the question of secrecy did not cover them?

(Question not answered.)

By Mr. Dovey: Is it not a fact that on March 11, in Melbourne, representatives of the Federal Council stated that they would have to consult the Branch councils on the question of remuneration before they could come to any conclusion?

A.: That is true.

Q.: Is it a fact that it was agreed that such an opportunity should be afforded and assistance should be given to members of the council in the preparation of the case which would make clear the arguments put forward?

A.: That is true.

Q.: And that was done?

A.: Yes.

Q.: And it was thereupon agreed that members should disperse and report to their Branch councils in March?

A.: I am assuming that that was the case.

By the Chairman: As to New South Wales, was there no imparting of the information to the members of the Branch council as to the position that had been reached in the negotiations? That was the object of the adjournment, and if no information was given to members of the Branch council in New South Wales, well, that object was defeated. Do you say there was no gathering at all or no communicating at all of the position to the members of the Branch council in New South Wales?

A.: It was put to them in a general way, that such-and-such might happen and that such-and-such might be done, but the difficulty was that the New South Wales representative felt he was in a difficult position. He felt that if he disclosed this information he would not be able to bind his members to secrecy; he felt that some of his members might not feel bound, as he was bound, to secrecy by the Commonwealth representatives.

The Chairman: It may be that he took that view, but it seems to me that the arrangement of secrecy contemplated a full disclosure to the members of the Branch council.

By Mr. Dovey: Is it not the fact that members of the council were handed a prepared statement?

A.: Members of the executive were handed a prepared statement for the purpose of taking it to their Branches; that was prepared by Mr. Bridgen and myself.

Q.: Have you got a copy of it here?

A.: No.

Q.: And in that document the capitation rate was set out?

A.: Yes.

By the Chairman: Was not that statement communicated to the members of the Branch council in New South Wales, in an informal way maybe, but in fact communicated to them?

A.: I do not think it was communicated *in toto*; it was just that difficulty that the New South Wales representative felt in regard to secrecy.

The Chairman: He seems to have had a laudable desire to hold his tongue; but the arrangement was that this statement should be communicated to members of the Branch council and not held up; it was to be given to them and it was prepared for that very purpose.

Mr. Dovey: On what Dr. Hunter has said I tender now the article appearing in THE MEDICAL JOURNAL of May 14.

The Chairman: It comes down to this: a written statement is made by Dr. Archdall in the terms of the article appearing in THE MEDICAL JOURNAL OF AUSTRALIA.

Mr. Dovey: I am adopting this course rather than put Dr. Archdall in the box.

The Chairman: The position, I take it, can be considered in this way. Supposing you had Dr. Archdall here and you put him in the witness box under oath, and you asked him did he write this article, then the question would arise, when you tendered that article, whether it would be admissible.

Mr. Dovey: My question would be: "Did you write this article on behalf of the British Medical Association?"

The Chairman: That is the point; it is not yet shown that he did write it on behalf of the British Medical Association.

Mr. Dovey: He is the only one who can say that.

The Chairman: The position then would be that he, as editor, who happened also to be a doctor, wrote this article. Does that make it admissible in evidence?

Mr. Dovey: Not unless an inference can be drawn that it was written on behalf of the British Medical Association. I indicated a moment ago that I was merely tendering the article at this stage in order to obviate the necessity of bringing Dr. Archdall before the Commission.

The Chairman: If you had him here and asked him: "Did you not write this article acting under the direction or as the mouthpiece of the British Medical Association?" That, I think, would be admissible in substance; and then the admissibility of this article would depend on his answer.

Mr. Dovey: However, if my friend still objects, I appreciate that I shall have to call Dr. Archdall.

Mr. Abrahams: You will have to go a long way for him; he is in England.

Mr. Dovey: Do you still object.

Mr. Abrahams: Yes.

Thomas Lindsay was sworn and examined.

By Mr. Dovey: You are Assistant Secretary of the Public Health Division of the Ministry of Health in England?

A.: Yes.

Q.: And at present you are seconded for temporary service with the Commonwealth Government?

A.: Yes.

Q.: You have prepared a statement, "Notes on a system of remunerating insurance practitioners"?

A.: Yes.

Q.: In that you deal with the system operating in England and with some suggestions for its application to Australia?

A.: Yes.

The statement mentioned was tendered as evidence, and was read and labelled Exhibit G.

Mr. Dovey: You might explain the reasons for your submission in paragraph 23.

Mr. Lindsay: The object of an allocation would be to put on the lists of insurance doctors for the year the names of insured persons in that year. The objection is that you cannot know the names of such persons. You know that they have been in that area, because a notification has been sent by the approved society to the deputy commissioner for that area, but you have no knowledge whatever of their movements since that time. That, as I said earlier, proved in England a very serious objection to allocation and is, I should imagine, likely to be still more serious in Australia, with important and large groups of persons in migratory occupations, such as shearers.

Mr. Dovey: The result would be, it would be impracticable to make payments to the medical practitioners on the case value system out of the fund?

Mr. Lindsay: Yes, because you have put on the lists names that are not represented by any people in the area.

Q.: It is contemplated that if it be left to the insured person to see that his name gets on the list of a medical practitioner, there will be fewer persons on the lists of medical practitioners in respect of whom the initial capitation fee is to be paid than there are insured persons?

A.: Yes; and there is the great advantage that you make sure that no one is placed on a doctor's list who does not prove that he is in the area by applying either to the doctor direct or to a body for allocation.

Q.: It is really a protection for the doctors themselves?

A.: For the doctors also, yes.

Q.: I understand that under the English scheme some distinction is made in respect of the form of the medical card for persons who have no permanent residence?

A.: That is so. It is substantially Part D of the medical card circulated, isolated from the rest of it. He is always a temporary resident wherever he goes. The two principal classes in England are commercial travellers and members of the theatrical profession.

Q.: Mr. Brigden said that in England it is calculated that an insurance practitioner visits an insured person 0.78 time a year. Are those figures correct to your knowledge?

A.: Those are figures obtained from records kept by insurance doctors and carefully compiled for the purpose of arbitration on the capitation fee held at the beginning of last year. To the best of my knowledge they are correct.

Q.: That arbitration or inquiry was commenced at the beginning of last year. When did it finish?

A.: It opened on Wednesday, May 26, and finished, I believe, before the end of the month.

Q.: What was the personnel of that tribune; how was it constituted?

A.: Lord Amulree presided and the other members were Sir Thomas Howth, an accountant, and Mr. D. H. Robertson, Professor of Economics at Cambridge University.

Dr. Mulvey: Did the British Medical Association have representation on that inquiry?

A.: No, not as a member of the court.

Q.: I understand that they conducted an independent inquiry in regard to the same matter?

A.: They collected independent statistics, to which we raised certain objections.

Q.: What was their figure?

A.: 1.33.

Q.: There was quite a big discrepancy compared with the finding of that commission?

A.: Oh, no, this is not a finding of a commission. These are the figures prepared by the Ministry of Health and by the Insurance Acts Committee for submission to this court of inquiry. A part of our case was that the Insurance Acts Committee's figure was selected on a principle that necessarily gave a bad sample, or not a representative sample.

Q.: In other words, you discredited the figures obtained by that independent court of inquiry?

A.: They were not the figures of the independent court of inquiry. They were figures obtained by the Insurance Acts Committee for presentation to the court of inquiry. At the same time the Ministry of Health prepared figures for presentation to the court of inquiry. There was a discrepancy between the two sets of figures, which was discussed at some length.

Q.: That discrepancy was the difference between 0.76 and 1.33?

A.: Yes.

Q.: Have you the records of the total number of attendances both at the surgery and at the home?

A.: For 1936 our figure was 3.66 and that of the Insurance Acts Committee was 5.13. I should perhaps add that we made certain adjustments to our figures on statistical grounds, which increased our figure of 3.66 to 3.73. The contrast then is between 3.73 and 5.13.

The Chairman: From what material were the statistics compiled?

A.: The Ministry of Health's figures were obtained by inspection by the regional medical staff of the record cards, of which a sample was exhibited yesterday, of insurance doctors, selected so as to give proper proportions of town and country, large and small practices, and so on, and known to be good keepers of records. The figures of the Insurance Acts Committee were sent in to that committee on forms by insurance doctors, which I have not seen.

Q.: In answer to questionnaires?

A.: I cannot say. They were volunteered. That was our basis of objection. The basis was different from ours, and we never could learn exactly what it was; but we took the statistical objection that since these figures were collated and sent in by volunteers there was necessarily some departure from an absolutely fair sample.

Q.: That is to say, the man who volunteered would be likely to be a man with a high proportion of attendances, and one who would take care to keep records. The suggestion, I suppose, was that this careful man, with an abundance of attendances, would send in returns while the equally careful man with a scarcity of attendances would not volunteer the information?

A.: That was one factor. There was also the perhaps slightly less invidious one that the man who was keen enough to volunteer to do this work for the sake of his profession would tend, on the average, to be an industrious, keen man in his profession and would give rather more attention to his patients than the average man. That is perhaps a fine point. I have asked the Ministry of Health to send to me the criticism of the expert of the Government Actuaries Department in this matter. I am neither a statistician nor an actuary, and am stating only what

was said. The Government Actuary was called as a witness in the course of the inquiry.

Mr. Bowie Wilson: In 1924 the average number of patients per insured doctor was 976, and the average remuneration of doctors was £440. In 1936 the figures were 916 and £430 respectively.

The Chairman: Do you wish to make any comments on the document headed "Notes on Proposed Scheme of Medical Benefits"?

A.: On page 3 there is a very condensed description of the method of dealing in England with complaints against medical practitioners. It has to do with the removal of a doctor from the list. This cannot be done in England except after an inquiry by a board comprising two medical practitioners with a legal chairman. That is to protect the practitioner against arbitrary removal. A little further down is a short description of the method of dealing with minor complaints. Such complaints go in the first instance before a tribunal consisting of equal numbers of medical practitioners and representatives of approved societies, with a mutual chairman, who is probably appointed by the county council or the borough council, as provided in the Act.

Mr. Dovey: It would appear that a similar provision is contemplated in the Australian Act?

A.: That is one of the duties of the district medical benefit committees to be set up under section 59.

Q.: There is provision for the setting up of referees where there is any dispute between a practitioner and the Commission. That is provided for in section 168, 169 and 170?

A.: Yes. I have not discussed with the Commission how far that is to be applied in this case. I understood that that was one of the matters to be discussed with the representatives of the British Medical Association.

Dr. Mulvey: This matter is causing considerable misapprehension among members of the medical profession, particularly among general practitioners. They are concerned about the provisions for penalties and fines for misdemeanours. Can you give the Commission any idea of the number of fines imposed for minor breaches and the number of practitioners who have been struck off the panel for gross misdemeanours in England during, say, the last three years?

A.: During the year 1932-1933 three applications were made for the removal of doctors from the panel.

Mr. Dovey: How many doctors are there on the panel?

A.: There are 15,860, and there are approximately 15,000,000 persons entitled to medical benefit.

Q.: And in respect of the 15,860 medical practitioners representations for removal were made in respect of only three?

A.: Yes. In one case the Minister decided not to remove the doctor, while in the other two cases the doctors were permitted to resign. My impression is that in most cases where doctors are permitted to resign the doctor has been doing very little panel practice, and doing it unwillingly. He has not laid himself out to do that kind of work, and has not realized his responsibilities. In 1935-1936 there were also three representations for removal, and one was removed and two permitted to resign. At this time there were 16,000 doctors and practically the same number of insured persons as in the year previously cited. For the year 1936-1937 only one representation for removal was made, and the man concerned was permitted to resign.

Mr. Abrahams: You have omitted two years?

A.: That is because the figures are based on reports of the Ministry for Health, which I happened to bring with me.

Q.: Can you say how many of the doctors cited were fined?

A.: It is not a question of fining. The figures I quoted referred to applications for removal, which is a more serious matter than fining or deductions. I cannot give the number of doctors cited. I have the figures only for 1932-1933, when 109 cases of complaint were established, and there were deductions from their remuneration.

Dr. Mulvey: How many cases were investigated?

A.: I have not that information.

Mr. Dovey: Have you the figures for any other year?

A.: In 1935-1936 there were 96 cases established, and in 1936-1937 the number was 116.

Q.: What happened as a result?

A.: Deductions were made from the doctors' remuneration. We call it that rather than a fine because the theory is that the doctor has not carried out what he undertook to do, and therefore has not earned the money. I have not here a record of the individual amounts, but there are reports in Canberra which give the total amount.

Q.: Have you any recollection of the total?

A.: I would expect it to average between £5 and £10 each.

Mr. Abrahams: The amount can be as high as £100?

A.: It can; but those serious cases are very rare.

Mr. Dovey: Have you anything further to say regarding page 3?

A.: No. I brought the report of the Royal Commission in case there was any comparison made between the standard of medical practitioners in Australia and England.

Mr. Dovey: I do not think that this Commission is concerned with that matter. We know that statements have been made in the Press by persons who have, for the most part, remained anonymous, that this insurance scheme will tend to lower the standard of medical service in Australia. However, until suggestions of that kind are made in evidence before this Commission, I do not propose to deal with it. In any case, it does not seem relevant for consideration by this Commission.

The Chairman: Do you mean that it might reduce the standard of the medical profession, its prestige *et cetera*?

A.: No, it has been suggested that it might reduce the standard of medical services. It has been said that the profession in Australia is very proud of the standard of service given by general practitioners, and it is claimed in some quarters that the insurance scheme will tend to lower that standard.

Q.: That is to say that the patients will not get as good treatment as they are getting now?

Mr. Dovey: That is so; but the suggestion has not yet been made before this Commission. Mr. Lindsay is prepared to discuss the English system if the question arises. Mr. Abrahams has promised to let me know if he proposes to raise this issue before the Commission, so that it may be dealt with by Mr. Lindsay and other witnesses.

Mr. Abrahams: I gave my friend that undertaking. There are two possible ways in which the issue may become relevant. For instance, it has been suggested through one of the witnesses that a basis of comparison is the 9s. capitation rate paid in England. It is possible that doctors in Australia have to take a higher degree. If doctors here have to render more efficient and better service than is rendered in England their services should be worth more than the rate comparable with 9s. . . . It may be that the Royal Commission would be justified in taking the public interest into consideration as a relevant circumstance when fixing the fee. The Commission may say that if it makes the rate too low the public cannot possibly get that service which they have been getting in the past. In England it may be that the service was not good when national insurance was introduced, and that the public therefore is just as well served at a capitation rate of 9s. as it previously was under the friendly societies scheme when the rate was 4s. 6d. or thereabout.

The Chairman: At present it seems to me that any consideration of that kind involves a consideration of the medical service to be given to the patients by insurance practitioners, and that is a matter for the Insurance Commission, not for us. Therefore, in the ultimate resort, it is a matter for the Commonwealth legislature which has created the Insurance Commission and given it power to decide what shall be the field and standard of medical treatment to be given to insurance patients. It is their

affair and not ours. We are not here to override what the legislature has decided, or to alter the powers which the legislature has given to its instrument, the Insurance Commission.

Mr. Abrahams: I take it that Your Honour agrees that a comparison of service to be rendered as between England and Australia is relevant.

The Chairman: We are to fix the value of the remuneration for medical service which is laid down by the Insurance Commission, not by us. In connexion with the fixation of the remuneration we are entitled to make comparison with what is being paid elsewhere. It may be for a poorer service, but such a comparison is of some relevance in arriving at a proper amount payable for a higher standard of service. In England the argument is that 9s. is paid for medical service to insurance doctors. There the medical service is inclusive of workmen's compensation work, as well as some other matters which are excluded under the Australian scheme. We are asked to assess the amount which should be paid in Australia for the services determined by the Insurance Commission which do not include workmen's compensation *et cetera*. You are asking, Mr. Abrahams, I gather, that this Commission should take this into consideration: if it fixes a rate which your clients would regard as a low rate it should at the same time bear in mind that the fixation of that low rate might result in an inferior standard of treatment compared with what has prevailed up to now.

Mr. Abrahams: That is a second consideration. The first point upon which I want your guidance is this: 9s. is paid in England for X. It is suggested that the actual quantum of service in Australia is X-Y. Adjustments have to be made for cost of living *et cetera*, but it is then said that when you look at 9s. for X, 11s. is a fair remuneration for X-Y. I suggest that, although you have compared amounts and quantum you have not done everything for the purpose of arriving at a true comparison. The third thing to compare is quality.

The Chairman: You say that the medical man here, on the average, has a higher standard of training *et cetera*.

Mr. Abrahams: Yes, and if we cure the patients more quickly, if we treat them properly, they will not remain a charge for so long on the sickness or disablement funds.

The Chairman: I am inclined to think that would be a matter which we should consider. If we consider the rate paid in Great Britain for services, it is only right that we should consider any suggestion that the men rendering insurance medical services in Australia are superior in their training, qualifications and capacity to the insurance practitioners in England.

On being questioned again concerning complaints against medical practitioners, Mr. Lindsay quoted extensively from a book entitled "National Health Insurance", by G. F. McCleary, a former medical officer of the British Ministry of Health.

Mr. Dovey questioned Mr. Lindsay concerning a Royal Commission on National Health Insurance which sat in England during part of 1924 and 1925.

Mr. Dovey: You desire to read some portions of its findings?

A.: At page 37 it discusses in general terms the allegations against the insurance medical service, and concludes as follows:

We suggest finally that the only satisfactory evidence available is that which expresses the views of those who have seen the operation of medical benefit at close quarters, and who, having seen it in bulk, are unlikely to be unduly influenced by any random deviation from the general standard such as is apt to sway the judgement of those less intimately informed on these matters. Of such a character are the views we have already quoted.

At the conclusion of this quotation I shall quote the most important of those, namely, the views of the British Medical Association. The quotation continues:

When we contrast the attitude assumed in 1912 by the medical profession and by considerable bodies of

public opinion towards the medical service proposed under the Insurance Act with the body of testimony which we have now received, we can say confidently that adverse forecasts have been falsified and that medical benefit has proved in practice a successful and most valued factor in the advancement of the health of the nation.

One of the passages expressing the views of the British Medical Association is to be found on page 34 of the same document. It is headed "British Medical Association" and reads:

In the year 1922 both the representative body of the Association and the conference of representatives of local medical and panel committees declared that the measure of success which has attended the experiment of providing medical benefit under the National Health Insurance Act system has been sufficient to justify the profession in uniting to insure the continuance and improvement of an insurance system.

(a) Large numbers, indeed whole classes of persons are now receiving a real medical attention which they formerly did not receive at all.

(b) The number of practitioners in proportion to the population in densely populated areas has increased.

(c) The amount and character of the medical attention given is superior to that formerly given in the best old clubs and immensely superior to that given in the great majority of clubs, which were far from the best.

(d) Illness is now coming under skilled observation and treatment at an earlier stage than was formerly the case.

(e) Speaking generally, the work of practitioners has been given a bias towards prevention, which was formerly not so marked.

(f) Clinical records have been or are being provided which may be made of great service in relation to medical service and public health.

(g) Cooperation among practitioners is being encouraged to an increasing degree.

(h) There is now a more marked recognition than formerly of the collective responsibility of the profession to the community in all health matters.

The Association add that "all these are immense gains, and though it is possible that some of them may not be wholly due to the establishment of the National Health Insurance Scheme, they have certainly been hastened and intensified by that system".

Mr. Dovey: Can you give any information as to whether any practical difficulty is found by insurance practitioners in England who are called upon to attend the dependants of insured persons?

A.: As a general rule, no. The insured person, that is, the man, has his insurance doctor who is in private practice the family doctor for those members of the family who are not insured.

Mr. Dovey: I ask that question because it has been stated recently that it may cause difficulty to medical men who may be the insurance practitioners to the head of the house and who may be called upon to attend that person's family, with the result that they might have difficulty in getting fees.

Dr. Mulvey: The explanation is that they started on a different basis. In England friendly society insurance covers only the insured person, whereas in Australia it usually covers the whole family. Doctors will experience difficulty in persuading the other members of the family that they are not covered.

Mr. Dovey: But 76% of the persons who will be covered by the national insurance scheme have not been covered at all before.

Mr. Abrahams: How many insurance practitioners have been refused the right to charge a patient after successfully performing services outside the scope of insurance work?

A.: I shall have to make a note of that to see if it is mentioned in our annual report; I am afraid it is not. It

is a question which very rarely arises. If the practitioner did in fact perform the operation successfully I doubt very much whether his colleagues would be apt to say he was not competent to do it.

Q.: I understand it is not a question as to whether he was competent; the question is, did he possess such special skill as was necessary. Supposing he performed an orthopedic operation, he might do it successfully but may not be able to call himself an orthopedic surgeon?

A.: It would be taken into consideration as to whether he had any practical experience or any training to that end of practising as a specialist; and secondly, whether, having successfully performed an operation, he thereby exposed his patient to an unjustifiable risk.

Harold Charles Green was sworn and examined.

Mr. Dovey: You are one of the Commissioners appointed to administer the *National Health and Pensions Insurance Act*?

A.: Yes.

After questioning Mr. Green concerning his qualifications and his acquaintance with the development of the national insurance scheme, Mr. Dovey asked: From the point of view of the Commission, is it practicable or desirable to have any different capitation rate in each State?

A.: I have made a number of notes supplementary to Mr. Bridgen's main evidence, and I think that if you will permit me to go through those—which I have arranged in what appeared to me to be logical sequence—that may be the better way to proceed. After considering the rough comparisons which have been made with England and South Africa, the British Medical Association representatives stated that conditions in Australia were so different from the conditions in those countries that satisfactory comparisons could not be made. Consequently it was decided to approach the question on the basis of existing friendly society contract practice in Australia. Unfortunately, we were immediately faced with the disability that detailed statistics concerning contract medical practice under friendly society agreements in Australia are not available from official records of the Registrar of Friendly Societies of the several States or from the statistics of the Government Statistician. Certainly in the published reports of the Registrar there are summaries of receipts and expenditure; but there are no detailed statistics as to age, conjugal condition, number of dependants, and those things which we needed in order to determine the basis for our purpose. The reason for that is that the Government Valuer, I understand, is not interested in the valuation of the society with the medical benefit fund; his work under the Act is restricted to payments of cash benefits, and this medical benefit fund is a pool which is put in and annually distributed; consequently it is not of much interest to him in connexion with his valuations. We then tried to get the information from the lodge secretaries. There again we were faced with the position that the grand secretaries, so far as we could ascertain, generally are not interested in the detailed administration of medical benefit. That administration is not centralized, but rather is decentralized, to the extent that lodge secretaries, I understand, are the people who are responsible directly for the negotiations in their districts so far as medical benefit and friendly society members in those districts are concerned. So there again our inquiries were abortive as far as getting the statistics we required was concerned. We had hoped that the representatives of the British Medical Association would be able to supply us with the information. Pharmacists, during the period from 1936—when Sir Walter Kinnear first visited Australia—up to the present time, had been making detailed inquiries in regard to matters which they thought were of importance so far as the measure or the evaluation of the amount which should be paid under national insurance as far as the pharmacists were concerned. Fortunately, they are men who are running on commercial lines and keep records, and were able to make this information available to us. Thus we were able to come to a decision very quickly. The records of the lodge doctors and the friendly societies were incomplete, and in their case we had none of the information we wanted. The time was very limited; there was no possibility of collecting the required information

by a questionnaire, and we were forced to look to some other source for the particulars we needed in order to arrive at some sort of a statistical basis in regard to this capitation fee. In considering this basis we had several points, all of which, I think, have been referred to. . . . We also realize that we must endeavour to secure the fullest and the most cordial cooperation of the medical profession. If we are to have medical benefit, we must have the medical profession to give the medical service required. If we did not have medical benefit, but had sickness benefit, we should still require the service of the doctors for the purpose of certifying all claims for sickness benefit. There are several alternative methods by which those arrangements for treatment and certification could be provided, but the Commission was unanimous in its desire that the arrangements should be made on the basis of contract practice. Consequently we all felt that we should do our utmost to arrive at a fair and reasonable figure, which would guarantee to us the whole-hearted cooperation of the medical profession in Australia. Our desire was to obtain contented service. At the same time we realized that the scheme was primarily for the purpose of giving a service to the insured persons in the form of medical treatment and sickness benefit. It is a plan for the benefit of the working man, a plan to which the workman has to contribute compulsorily, as well as the employer, and the taxpayer by way of Government subsidy. Therefore, there was a definite limit to the scope of the service which could be contemplated, because of the cost factor. It was suggested that we should have an "all in" service. We were all agreed upon the desirability of it, but we could not see where the money was to come from. The friendly society service is of a high standard, and yet we all felt that we should like to step further forward in this field, but not too far forward. It was desirable to start the scheme with a definite minimum basis of service, a basis upon which we could build in the future. It would be undesirable in the case of a huge service of this kind, which in a way is upsetting the whole of our social legislation which relates to such matters, to do anything too drastic in the first place. In addition, the national insurance funds are paid into a trust fund, and the Insurance Commissioners are trustees of that fund. We are definitely bound in our operations and in regard to the administration as it affects those funds. We have no discretionary power whatsoever. Our functions are defined in the Act, and will be further prescribed by regulation. If the services and contributions are to be reviewed by anybody, it must be by some authority other than the national insurance authority, because we have no power to make any amendments.

That being so, it was our duty to discover a basis for the assessment of a reasonable remuneration. To begin with, we had to guide us the statistics of friendly societies so far as the members were contributing for sickness benefit and funeral benefit. We also had the detailed records of the 1933 census before us. I happened to be the officer responsible for the taking of that census, and for the arrangement and tabulation of information. I inserted certain additional inquiries and analyses which had never before been attempted, either here or elsewhere, because we were mindful of the fact that national insurance was coming over the horizon. There is also in Australia today a very extensive system of contract medical service which involves the medical treatment of about 600,000 friendly society members and their dependants. It was essential to keep that in mind, so that nothing we did should jeopardize this system, which has worked so well for so many years.

Having examined all the information available, it was obvious that we could not get that precise statistical information which is generally obtainable for inquiries of this kind. All we could get was some broad general averages; but we agreed that those averages would be good enough for the purpose. At our first meeting with the British Medical Association in Melbourne it was definitely stressed that the figures were merely general averages, and that the figures were the only ones available without holding a special inquiry.

(The witness withdrew.)

Mr. J. B. Brigden was recalled and further examined.

Mr. Dovey: You have, I understand, prepared a restatement of the proper and necessary medical services in the form of a document, and you have also prepared an explanation of that document. You wish that the restatement should be tendered in substitution of Exhibit A?

A.: That is so.

(A document was tendered to replace Exhibit A.)

Thursday, August 11, 1938.

The examination of Mr. H. C. Green was continued. The possibility of variable rates of payment to medical practitioners and of variable rates of contribution by insured persons in different States was discussed. Mr. Green tendered a statement in which he had set out certain relevant features of the common forms of agreement in various States between the British Medical Association and friendly societies. This was labelled "Exhibit B".

Mr. Green discussed the figures shown in the common forms of agreement and their relationship to the figures on which the Government had based its calculation of the amounts to be paid annually to medical practitioners.

Mr. Green: The results obtained for Australia were as follows: metropolitan areas, 25s.; rural areas, 30s.; metropolitan and rural combined, 27s. The representatives of the British Medical Association said that they could not accept any estimate which took into account the rates at present payable in Victoria. Although those rates were fixed by an arbitrator fifteen years ago, when the cost of living was substantially higher than it is at present, they nevertheless stated that those rates had been accepted by the profession under duress, that they had always been considered inadequate, and that at present negotiations are in train for a revision of them. Without in any way supporting that contention, but in order to carry on our policy of give and take in an endeavour to secure the cordial cooperation of the medical profession, we said that, for the purpose of weighting, we were prepared to accept another figure for Victoria. I myself was very perturbed about our agreeing to do that, in view of the fact that negotiations were in train in Victoria and might be prejudiced, but the representatives of the British Medical Association were rather adamant on the point, and in the circumstances we gave way to them; consequently we substituted, at their suggestion, the New South Wales rate for the Victorian rate. Obviously the result reached was very similar to the average for New South Wales. Normally, we find in all population statistics that the State of New South Wales, which is about one-third of the Commonwealth, always has a big influence by reason of the fact that it has such a large proportion of the total. The effect of bringing in Victoria at the same rate, the two States representing practically two-thirds of the Commonwealth, is to give an average very similar to the average for New South Wales, with the slight difference that, owing to the very high rate in one State, there was a tendency to push up the metropolitan average slightly above what you would get for New South Wales. The resultant weighted averages from those calculations were, for the metropolitan areas 27s., for rural areas 32s., and for metropolitan and rural combined 29s. It will be noticed that these figures are given in shillings. It was considered undesirable that we should come down to pence, and the average rate was calculated to the nearest few pence.

The Chairman: You happen to have struck the mean between 26s. and 32s. Was that intended, or was it the result of actual weighting?

Mr. Green: It was the result of actual weighting. The distribution between metropolitan and rural areas is about "fifty-fifty". The above calculation assumes that the distribution of friendly society members between metropolitan and rural areas was in the same proportion as that of

employed persons at the 1933 census. Probably there is a small proportion of friendly society members in rural areas, especially outside the towns, as the activities of the friendly societies are greater in the metropolitan than in the rural areas; but we did not go into that question, as we had not the distribution of friendly society members, and we accepted the census distribution of population; but as the capitation rates under friendly society agreements for the country districts are higher, to this extent the weighted averages I have given would be too high. These averages are also based on the capitation rates paid by adult married male members with dependants. If calculations are to be made with mathematical precision in order to establish an average for all male and female persons treated under the contract, the figures I have given should be produced to take into account the much lower rates paid in some States by males without dependants, females, juniors and juveniles. The rate that we have taken is the rate for the adult married male with dependants. Had we worked out a similar rate for females, obviously we would have had a lower weighted average. In the same way, had we worked out a similar rate in respect of juniors and juveniles, obviously we would have had a lower weighted average. For the purpose of our calculations we have taken this rate only, whereas over the whole of the friendly society members a lower rate applies if we take into consideration the number who pay the lower rates. This basis of a weighted average also gives to the medical practitioner in all States except South Australia, which is higher than the average, and in New South Wales, which is the same, the benefit of the higher arbitrarily assumed capitation rate for Victoria. It also gives to the doctor in the lower paid States the benefit of the combined average with the more costly States. This system of weighting also assumes that the scope of service rendered by lodge doctors is precisely similar in all States. As a matter of fact that is not so. So far as we can see, one of the reasons for the higher rate paid in South Australia is that the scope of service in that State is wider.

Dr. Mulvey: It more closely approximates, too, the scope of service proposed by the National Insurance Commission.

Mr. Green: I should not like to say that that is so. We have not yet gone into that phase, and no doubt this Royal Commission will collect evidence upon it. These averages also assume that, unlike existing friendly society contract practice, under national insurance we shall pay in all States the same capitation rate for males and females as for adults, and also the same rate as for adults will be paid in respect of everybody under twenty-one years of age, including the extra class of boys and girls aged fourteen and fifteen years whom we call juvenile contributors, who were included in the Act as a supplementary provision. Originally the intention was that the national insurance scheme, in regard to sickness and medical benefit and pensions, should relate only to males between the ages of sixteen and sixty-five years, and to females between the ages of sixteen and sixty years in the employment specified under the Act; but we were rather impressed by an amendment contemplated to the British scheme, which we have had before us for over a year, to extend medical benefit to juvenile contributors—boys and girls, aged fourteen and fifteen years, who have just entered industry. There seemed to be a gap in the lives of boys from the time they were dependants until they entered into full employment at age sixteen, and it was considered that medical treatment was essential during this period. We proposed to follow the plan contemplated in Great Britain; but in the House there was a fair amount of criticism on the ground that we were debarring these young persons from the right of sick pay, and our original intention to limit the benefit to medical treatment had to be extended. Consequently the Act now provides for sickness benefit as well as medical treatment in respect of juvenile contributors. Having arrived at a weighted average as far as existing friendly society practice is concerned, the problem was to use that weighted average in an attempt to evaluate the capitation rate for national insurance purposes.

Dr. Mulvey: You assume that the common form of agreement for lodge practice is a satisfactory basis for national insurance?

A.: As a starting point, yes.

Mr. Dovey: According to Mr. Brigden's evidence, something more is provided?

A.: Yes. It is a starting point for consideration only in these discussions. . . . The basic weekly wage rates fixed by industrial tribunals in Australia, although not exactly identified with a specific family unit, assume that the wage declared will be sufficient to meet the requirements of the average family responsibility of the married adult worker. In the case of the Commonwealth, the family unit which has been considered consists of man, wife and two children. In New South Wales it is man, wife and child, plus child endowment for additional dependants. In Victoria the Commonwealth rates are followed to a large extent. In Queensland the family unit consists of man, wife and three children. In South Australia also it is man, wife and three children. In Western Australia it is man, wife and two children; and in Tasmania the Commonwealth rates are followed to a large extent. It might reasonably be assumed, therefore, that the average family unit for the married friendly society member would also comprise four persons. In regard to the rates that I have mentioned, I submit the Labour Report of the Commonwealth Statistician for 1936, Number 27. The rates are mentioned on page 93.

Mr. Abrahams: Do I understand that what the witness has done is to take the family of a married adult worker, excluding the single men altogether?

A.: Up to this stage only. I shall bring the single men in later on.

Q.: I do not know whether it is a national family for industrial award purposes, whether it is a statistical family for the whole population, or a statistical family for the average age of forty-one years for friendly society purposes?

A.: It is the national family for the purpose of industrial awards.

Mr. Dovey: I understood that these figures are not intended to indicate in which manner a tribunal is to approach the matter, but rather the manner in which statistics or any other computations have decided what the average family unit was in fact.

The Chairman: I understand that Mr. Green had to find out how the average friendly society rate of 29s. was to be dissected and applied to persons who received medical benefit, and he therefore had to take some family unit as a divisor.

Mr. Green: It was assumed that if the man's wage was directly or indirectly fixed on a family unit his contributions should be determined on the same basis.

Mr. Abrahams: It was suggested at an earlier stage that the Commonwealth Statistician would not swear to these figures as correct. I am suggesting that they are not based on true statistics.

Mr. Green: We had been waiting for better statistics for the last twelve months. We have to get on with the job and so we had to use what figures were available. Friendly society members, however, include other than married persons, and in the States of New South Wales, Victoria and Tasmania all male members pay the same rates, irrespective of whether they are adults or minors, married or not married. . . . At the conference of British Medical Association representatives with Sir Walter Kinnear in 1936 it was stated that each friendly society member represented, on the average, about three persons to whom the lodge doctor was required under the agreements to provide medical benefit. Sir Walter Kinnear at that conference had with him representatives of all the various organizations interested in national insurance, and afterwards he had notes typewritten and forwarded to me in Canberra. I have those notes, and his statement that it was generally agreed that friendly society members represented on the average three persons including the member himself. This figure was generally confirmed at the time in conversations with the officials of friendly societies and of friendly society dispensaries.

Dr. Mulvey: Was statistical evidence produced?

A.: There was never any desire or necessity to prove the figure. . . .

The report of Sir Walter Kinnear on the national health and pensions insurance scheme was tendered and labelled "Exhibit J".

Mr. Abrahams: On page 11 of Sir Walter Kinnear's report he says that on the basis of the ages it is estimated by the actuaries that 1,815,000 people will come under the scheme. That is a very important figure to me. The point is how many people will be removed from the operation of private practice by the new scheme and how many will be left for private practice. I should be glad to know whether Mr. Green will be able to tell us on what that figure is based, or whether somebody will be called to give that evidence. Otherwise I shall be compelled to object to the admission of this report as evidence.

Mr. Dovey: Can you state how the figure was arrived at?

A.: In the table prepared by Sir Walter Kinnear there is no reference to juvenile contributors, aged fourteen and fifteen, who have been since included, so that another 35,000 must be added. As a supplement to Sir Walter Kinnear's report I submit a copy of the actuarial report on the financial provisions of the National Health and Pensions Insurance Bill. The report is dated April 28, 1938, and is signed by Mr. Innis and Mr. Bennett. Mr. Innis is President of the Australian Branch of the Institute of Actuaries.

Mr. Abrahams: My objection is not based on technicalities. A report was prepared in 1933 which probably gave the earnings of various people at various ages. That was during the depression; but the situation has altered in the meantime. Wages are higher and employment is greater, so that the 1,850,000 persons mentioned in the report are earning considerably more income now than was the case in 1933.

The Chairman: Whom do you wish to be called, Mr. Abrahams?

Mr. Abrahams: The person who in the last analysis was responsible for fixing the figure at 1,850,000. If Mr. Green had done it I would have been content to have his evidence on the matter, but I understand that he did not. My instructions are that some actuaries are of opinion that this figure is not a reliable figure. That may be wrong, but those are my instructions.

After argument the report was admitted as evidence and labelled "Exhibit K", Mr. Abrahams being granted the right to object later if he thought fit, and Mr. Dovey promising to call Mr. Innis if necessary.

Mr. Green discussed statistics and calculations of the numbers of dependants of members of friendly societies, and said:

Applying the above-mentioned factors to the male membership of friendly societies in Australia, the following results were obtained for every 1,000 male members, namely:

720 Married males	720
Wives of married males	720
Dependants of married males	1,440
280 Unmarried males	280
1,000 Members	3,160 persons

This gives an average of about 3.2 persons for each married and unmarried male member.

We made inquiries and ascertained that the percentage of wives who would not be getting medical benefit in respect of husbands' contributions would be very small indeed. There must be a certain amount of overstatement in assuming 720 wives for 720 husbands, but I do not think it is a very big one. It may also be argued that there is a certain amount of overstatement in taking a basis of two dependants for each married male; but I shall deal with that later on. I want to be fair. In respect of the 280 unmarried males we have taken no account whatever that in those 280 are widowed males with dependent

children, and also single males with widowed mothers or orphan brothers and sisters.

This result was supported by a statement by Dr. H. Hunter, published in the British Medical Association journal of November 6, 1937, "that for each lodge member a doctor attended 3.2 individuals per year". He is quoted as saying:

The meeting must reason out a figure from the present lodge payments. It had been reckoned that for each lodge member a doctor attends 3.2 individuals per year. Much more attention was usually required by wives and families of lodge members than by lodge members themselves.

That statement was made at the annual meeting of delegates of the New South Wales Branch of the British Medical Association held in Sydney on October 1, 1937.

That was in 1937; we did not make our calculation until 1938.

The Chairman: He says "it has been calculated". He does not say by whom or how.

A.: I mentioned this matter to show that the general opinion of the medical profession as to friendly society people was confirmed by a general average.

Mr. Dovey: At that stage your department had not made any calculation at all?

A.: We knew nothing about this until it was brought up after the calculation was produced. This was four months before we made our calculation. Consequently there was no difference of opinion about the 3.2 at our meetings, and therefore it was agreed to accept that figure without question. I might say that later on, at a New South Wales meeting, there was a suggestion that this figure was too high, but at the Melbourne meeting no suggestion of that kind at all was made. In any case, no evidence was produced to disprove the figure.

Mr. Dovey: Did you pay some regard to sickness experience of males and females?

A.: This figure of 3.2 persons per friendly society male member does not fully indicate the claims made upon the lodge doctor's services by the family unit. Lodge doctors, chemists and dispensary officials all agreed that the demands for medical treatment of the member's wife are much greater than those of a husband, and that young children require even more medical attention than the mother.

The average number of weeks of sickness and disablement benefits payable under national insurance in England, as adopted for the valuation regulations in the year 1937, were as follows:

Age.	Sickness Benefit.		Disablement Benefit.	
	Men.	Married Women.	Men.	Married Women.
40	0.53	1.82	0.58	2.05
45	0.99	1.80	0.74	2.65
50	1.23	1.85	1.05	3.57
55	1.52	1.96	1.80	4.92
60	1.93	2.15	3.15	7.08

From this table it will be seen that the claims of insured married women are at least double those of married men.

Dr. Mulvey: Those are the married women under the national insurance scheme in England?

A.: Yes.

The Valuation Regulations, 1937, under the *National Health Insurance Act* (England), was tendered as evidence and labelled "Exhibit L".

Mr. Green: . . . There is one other factor which I want to stress: there will be fewer families in the insurance group and on the whole that should give a lower sickness experience. With regard to the figure "3.2" for the average number of persons estimated to be represented by male friendly society members' medical fee, whilst a case may perhaps be made out for a weighted average number based

on the number of attendances per annum for the various members of the family unit, it is obvious that statistics are not available, they were not available, and I doubt if they will be available when this inquiry is completed. All the representatives decided that a general average capitation rate for all members was in the circumstances the only thing practicable, and it was accepted. It was preferred by all of those who were present. Based on mere arithmetical calculations, it may be possible to make out a case for a higher or a lower figure as the equivalent of the friendly society contract practice for one individual; but the Commission is satisfied that 3.2 represents a fair and reasonable medium figure between the two extremes, after taking into consideration all the important factors mentioned. It is the lowest figure which we think could reasonably be adopted for this purpose in view of all the circumstances. I doubt whether you will be in any better position from a statistical point of view when this inquiry is completed than we were in at the time of these negotiations. At the end of five years of national insurance in Australia we shall have before us statistical evidence in regard to visits and attendances on the different types of insured people, just as that evidence is available in England today, and we shall then be in a much better position from a statistical viewpoint to determine the matter with more precision.

Mr. Dovey: Is that one of the reasons you advance to this Royal Commission in support of the submission of the Insurance Commission that five years should be the period during which any rate now fixed should operate?

A.: Yes.

The Chairman: You have said that you doubt whether we shall have any further information when this inquiry is completed. What about the questionnaire that is being sent out to the friendly societies. Will not that touch on the matter?

A.: Not on the matter of attendances.

Mr. Dovey: Is that all that you desire to say on that aspect?

A.: Yes. However, for the purpose of obtaining a general average capitation rate for one insured person on the basis of existing friendly society contract practice, it was decided to divide the weighted average rate of 29s. for each adult married male by 3.2 persons, with the resultant basic rate of approximately 9s. per individual. The corresponding figures for metropolitan and rural areas were 8s. 6d. and 10s. respectively. As previously indicated, the weighted average of actual existing rates is only 27s., that is, if the existing Victorian rates are taken into account. Had this figure been adopted, the resultant basic rate would have been about 8s. 6d., comprising 8s. for the metropolitan areas and 9s. 6d. for the country. It was decided to adopt the 9s. rate as a fair representation of the friendly society contract fee for the medical services of one person. The representatives of the British Medical Association suggested that the commencing figure should be 10s., but eventually stated that they were prepared to give for 9s. a national insurance service of the same scope as the present lodge practice.

Q.: Then I may take it that the use of 9s. as a commencing rate assumes that the demands on the services of doctors under that national insurance will be as heavy as exist under friendly society agreements?

A.: Yes.

Q.: You have already pointed out that the estimated average age will be thirty-two years under national insurance as against forty years under friendly society practice. The English experience shows that the duration of sickness of males at age thirty-two is about 30% less than at age forty-two?

A.: Yes.

Q.: And the demands on the doctor consequently will be less under national insurance than under friendly society contract practice?

A.: That is in regard to the 9s.

Q.: Will you pass now to the matter of the extra 2s.?

A.: Consideration was given to the question of the inclusion of additional services in the scope of service.

After a lot of discussion the decision was reached to add services relating to fractures, dislocations, minor operations and anaesthetics to the existing friendly society scale. The representatives of the British Medical Association stated that, in order to evaluate the charge to be made for these services, the council had issued a circular to 206 members engaged in contract practice in New South Wales whose lists represented about 55,000 members. The annual fees actually received by lodge doctors for these extra services outside lodge practice were estimated to be, on the average:

For fractures and dislocations	1s. per person
For minor operations	1s. per person
For anaesthetics	9d. per person

It was admitted that, owing to the late issue of the instructions, which did not accompany the questionnaire, in some cases major operations and workmen's compensation injuries might have been included in the figures. It was agreed after discussion to include fractures, dislocations and minor operations within the scope of the service, excluding anaesthetics, and to add the figure 2s. to the basic rate of 9s, making the total of 11s. We did not agree that 2s. was the right or the fair amount, but, adopting the policy of give and take, we were prepared to allow it to stand. As Mr. Bridgen stated in evidence, we thought that 1s. 6d. was nearer the figure.

Q.: There was some suggestion of a small allowance being made to cover additional clerical work?

A.: Yes, the representatives of the British Medical Association suggested that a small allowance of 3d. a head should be added to cover any additional clerical work required in connexion with the keeping of clinical records.

It was explained that the amount of clerical work required would be less than was anticipated.

Q.: Under the ordinary capitation rates visits are made to members who reside within certain stated mileage limits from the doctor's surgery. In addition, mileage fees are payable in all States to lodge doctors for travelling to visit members who reside beyond the radius stated in the agreements. Those rates are fixed at so much per mile for the outward journey only?

A.: Yes, that information is in the copies of agreements which have been handed in.

Q.: You have prepared a summary in regard to the matter, have you not?

A.: Yes, the mileage limit in New South Wales and Victoria is two miles, and in the other States three miles, with the exception of certain rural areas in Queensland and Tasmania, where a lower mileage rate applies. The rate payable for mileage for the outward journey only in the metropolitan area during the day-time is calculated as between 8 a.m. and 8 p.m. In New South Wales and Victoria the rate is 3s. 6d. per mile; in Queensland and South Australia 5s. a mile; in Tasmania 5s. a mile; and in Western Australia 2s. 6d. a mile. In the metropolitan area for night visits the rate per mile is on the outward journey in New South Wales and Victoria 5s. a mile, and in Queensland, South Australia and Tasmania 7s. 6d. a mile, while in Western Australia it is 3s. 6d. a mile. The rural rates differ slightly in most States, and are, in the main, from 1s. to 2s. 6d. higher than in the metropolitan area.

Q.: In Victoria they are the same?

A.: Yes.

Q.: In Western Australia they are 1s. more, while in Tasmania there is a different scheme?

A.: Yes. In Tasmania there is a lower rate, because there is a smaller mileage limit.

Q.: Under the friendly societies agreements these mileage fees are payable by the member direct to the doctor at the time of the visit?

A.: Yes, and friendly society officials are expected to cooperate in the recovery of fees when a member is in default.

Q.: Have you obtained any information from members of the British Medical Association and friendly society officials regarding the practice that obtains?

A.: Yes. Both the British Medical Association representatives and friendly society officials have stated that these fees are quite frequently not demanded by the doctor, while if they are demanded, it often happens that they are not paid. If the doctor is satisfied that the patient is not in a position to pay, he does not press the claim.

Dr. Mulvey: I think the point is that the charging of a fee in those cases is designed to act as a deterrent against the making of unnecessary calls. The fee is not asked for in genuine cases, but it acts as a deterrent against neurotics and hypochondriacs?

A.: That is so. Even when claims are made, the doctors say they are not calculated on a mileage basis. . . . It was agreed that the addition of a mileage capitation rate to supplement the ordinary capitation rate of 11s. would be a practical method of adjusting remuneration payable to country doctors as compared with those in metropolitan areas. Under national insurance it would not be practicable to arrange a system of payments to the doctor for each actual journey based on the mileage travelled in each instance, unless the member paid the doctor himself, which would be undesirable. It was essential, therefore, to devise a plan whereby the payment of mileage fees would not require detailed records of actual journeys to be kept and checked. Experience of national insurance in England shows that, on the average, an insurance doctor makes 0.76 visit yearly to each insured member. It was decided to assume that in Australia there would be one visit yearly to each insured member outside the three-mile limit. Arrangements will be made for the distance which each insured person resides outside the three-mile limit to be recorded on the insured person's medical card and transferred to his insurance doctor's medical list. A mileage capitation fee would be paid to the doctor each year from the mileage fund for each insured member, based on a rate calculated to cover cost of transport and remuneration for travelling time, and weighted according to the mileage of each member outside the three-mile limit, on the assumption of one visit *per annum*. Under this arrangement the doctor would receive the mileage capitation fee irrespective of whether he visited the member at his home once a year or not, or whether he attended more than one member on any journey.

Q.: It has been stated that the cost of running a suitable car would be not more than 6d. a mile?

A.: Several statements were obtained from reliable sources as to the costs of running a motor car. From this information it was estimated that for a suitable six-cylinder American car of 26 horsepower, averaging 16 miles to the gallon, and costing £400, with adequate allowances for depreciation on the basis of a three years' life, registration, petrol, oil, repairs *et cetera*, the running costs would amount to 6d. per mile. The British Medical Association representatives agreed to this figure.

The Commission adjourned at 4.10 p.m. to 10.30 a.m. on Monday, August 29, 1938.

STATEMENT PREPARED BY THE NATIONAL HEALTH COMMISSIONERS.

Mr. J. B. BRIDGEN tendered as evidence before the Royal Commission a statement prepared by the National Health Commissioners. This is published in full, save for several portions which have already appeared in this journal.

STATEMENT PREPARED BY THE COMMISSIONERS FOR SUBMISSION, AS EVIDENCE BY THE CHAIRMAN, TO THE ROYAL COMMISSION APPOINTED TO INQUIRE INTO AND SUBMIT RECOMMENDATIONS UPON THE ANNUAL AMOUNTS TO BE PROVIDED FOR THE PAYMENT OF INSURANCE MEDICAL PRACTITIONERS AND ON COGNATE MATTERS.

1. I tender a statement describing the scope of the proper and necessary medical services which the Commissioners propose to recommend for inclusion in the Regulations to be made under The *National Health and Pensions*

Insurance Act 1938. I desire also to describe the other conditions of medical service which the Commissioners propose to recommend for inclusion in the Regulations to be made under the Act. I believe that when this has been done the Royal Commission will have sufficient information before it for its purposes concerning the service required from medical practitioners who accept service under the Act.

2. In pursuance of the policy embodied in the Act the Commonwealth Treasurer and his advisers commenced negotiations with the Executive Committee of the Federal Council of the British Medical Association, and, in March, 1938, arrived at an agreement on the principal questions of policy governing the terms and conditions of insurance service.

I tender a statement recording, from notes taken at the time, the history of those negotiations. The agreement then reached forms the basis of the evidence which I now present, but many of the conditions which were then left rather vague have, after careful consideration and for the purposes of this evidence, been given more precise form by the Commission.

3. The negotiations entered into were, in the opinion of the Government, brought to a close by the rejection by the profession of the agreement referred to. A letter dated 13th June, 1938, addressed to the Commonwealth Treasurer, was received from the Secretary of the British Medical Association on behalf of the Federal Council of that Association, informing the Treasurer of that fact. This letter made other proposals and invited a resumption of negotiations. The Government decided that in the circumstances then prevailing it could have no assurance that any agreement would be accepted by the profession.

4. Section 60 of the Act provides that the Commission may refer to a Medical Practitioners' Committee for report matters relating to the administration of medical benefit under the Act, and may itself consider any representations relating to such administration which insurance practitioners may make through that Committee. The Committee is to represent such practitioners, but it cannot be constituted until medical benefit is commenced.

The Commissioners desire to afford an opportunity for a similar Committee to be constituted before the proposed Regulations need to be made, and for that Committee to confer with the Commissioners and their officers on certain details of the scope and conditions of service.

5. The Commissioners desire nothing more than to resume with any accredited representatives of the medical profession the good relations which existed between its members and the Executive Committee of the Federal Council of the British Medical Association during the progress of the negotiations referred to, and it recognizes that for a satisfactory service harmonious relations need to be established with the insurance practitioners as a whole.

6. The statement describing the scope of the medical service and the descriptions I shall give of other conditions of service are therefore submitted without prejudice to any minor amendments that the Commissioners may see fit to recommend to the Governor-General in Council before the Regulations are made. I undertake that no such amendments, except of a very trivial character, will be made except after consultation with representatives of persons who are likely to become insurance practitioners, and that any such variations will be made without alteration in the pecuniary conditions to be determined after the Report of the Royal Commission is received.

In this evidence I shall distinguish between (a) the scope of medical treatment, (b) the conditions of medical service, and (c) the pecuniary conditions which are called the "terms of service".

7. The Commissioners suggest that at present and for the reasons given it is neither necessary nor desirable that the sections of the Act relevant to this inquiry should be proclaimed, nor that the relevant Regulations should be made. It is hoped that the information now supplied will give a sufficient degree of definiteness to the scope of medical treatment and the conditions of the proper and necessary medical service to be provided under the Act.

PRINCIPLES OF THE INSURANCE MEDICAL SERVICE.

8. The object of the National Insurance Commission is to supply the best quality service for insured persons that can be provided by the medical profession within the scope that has been defined. The scope of that service is consistent with the extent of the cash benefits to be provided under the Act, in that it is a minimum service. It is not proposed to nationalize the medical services of Australia. The service required will, nevertheless, be comprehensive in its nature. It may be described simply as comprising general practitioner physician treatment, together with minor surgery and advice as to any specialist treatment that may be required.

9. The introduction of this medical service will undoubtedly have effects in some respects comparable to the effects of the introduction of cash benefits under the Act. The latter are requiring adjustments in existing arrangements of great magnitude and variety, and some of them have already been made. These adjustments are not being made without difficulty. But they are being dealt with on the whole in a very good spirit. The introduction of insurance medical service may have disturbing effects on individual practitioners, and may create greater difficulties for them than may be the case even with the least favorably situated classes of contributors to the scheme, but it is not expected that the difficulties will be regarded as very serious once the proposals of the Commission are understood.

The Commissioners believe that its insurance medical service will in time fit in with the general health services of the community, both public and private, as the purely financial provisions of compulsory insurance will fit in with the many systems of voluntary insurance for cash benefits.

10. The Commissioners believe that the insurance medical service can be supplied as a standard service of high quality through general practitioners throughout Australia. The service has large possibilities, through advice and treatment that can become available in the early stages of ill-health, for the prevention of some serious maladies and the reduction of the amount of sickness that would otherwise exist. Given a general willingness to co-operate there is no reason why the service should not soon become an integral part of the general Australian system of provision for public health, in which the Commonwealth, the States, the local authorities, the public hospitals and other instrumentalities each play their parts, and to which has recently been added the Commonwealth Medical Research Council.

11. The scope of treatment to be provided will not be the only health service to be provided under the Act. In course of time there will be "additional benefits" arising from disposable surpluses of Approved Societies. The Commissioners will endeavour as opportunity offers and funds permit to recommend additional statutory benefits with particular reference to diagnostic aids to treatment and the prevention of disease. Such statutory benefits may be provided by specialists controlled by the Commission either directly or in conjunction with other public authorities.

12. The Commissioners' first duty, however, will be to establish as soon as may be practicable its present scope of medical treatment for all insured persons in all parts of the Commonwealth. This will be a large task and the extension of the Commission's service to cover the remote areas of the Commonwealth, as well as the more sparsely settled areas in each State, may take more time and money than the Commissioners will have available in the early years.

13. The scheme authorized by the Act is based on British experience, which now covers a period of over twenty-five years. It is not based on the actual system now operating in Great Britain, which has certain features appropriate to its local conditions and, naturally, to its historic development. Australia has other conditions not less difficult, and it may develop particular features of its own. The Act is designed to allow of the initiation and development of a system of service suitable to Australian conditions. It may in time differ greatly from the British system. Its character and the extent of its development

will naturally depend very much on the co-operation of the medical profession in Australia. In determining the scope of service to be provided on the inception of the system, the Commissioners have made full use of Australian experience and practice of a like nature, and have sought to make the system as simple and as open as possible to opportunities for natural development.

14. Certain particular principles are outstanding and may be summarized as follow:

- (i) It is intended as far as possible to supply the medical service through practitioners who are willing to accept conditions similar to those to be described in this evidence and terms to be decided later, and to employ salaried medical officers for the treatment of insured persons only where the alternative is not practicable;
- (ii) Every medical practitioner registered for general practice under State law will be eligible to accept service, and may withdraw from service at any time, after giving reasonable notice, subject to certain conditions to be prescribed for abnormal circumstances. Practitioners will be allowed to transfer services to others subject to the rights of insured persons to transfer also, and no practitioner will be removed from service except after an inquiry by a tribunal on which his fellow practitioners will be a majority.
- (iii) It is intended to devolve upon insurance practitioners as large a share of the control of the service as is compatible with the interests of insured persons.
- (iv) Paragraph 5 of the Terms of Reference invites the Royal Commission to report on the circumstances and conditions under which insurance practitioners may require payments from insured persons. It is intended that such payments may be required and accepted only for services which by strict interpretation will be outside the scope of the insurance service.
- (v) It is recognized that in Australia, and particularly in certain country districts, it is quite common for general practitioners to be qualified to undertake some of the treatment service excluded from the scope of treatment determined for insurance practice.
- (vi) The Commissioners desire that any restrictions which may be imposed on the rights of insurance practitioners to receive payments for treatment outside the scope of the insurance service, shall be determined by the insurance practitioners themselves.

THE CONDITIONS OF SERVICE.

15. The expression "terms of service" has been used to distinguish the factors that are of a pecuniary nature. The conditions of service may be classified as follow:

- (i) The treatment, advice, prescriptions, &c., to be provided.
- (ii) The maximum number of persons on a practitioner's list.
- (iii) Consulting rooms, hours of attendance and hours and conditions of visiting.
- (iv) The right to require and accept payments from insurance patients in special circumstances.
- (v) Certificates and records.
- (vi) Co-operation in administration.

- (i) The Treatment, Advice, Prescriptions, &c., to be Provided.

16. The treatment which has been described is the treatment required in ordinary circumstances. The insurance practitioner will, however, be required in all circumstances of urgency to render to the best of his ability whatever service may be necessary, having regard to the circumstances, without regard to the strict scope of his service. He will also be required in other circumstances to advise his patients as to the action they should take to obtain

any treatment outside the scope of insurance service, and of the facilities which exist for such treatment in any public institution.

Each practitioner will be required to render personal service. Provision will be made for deputies, assistants and partnerships, but the service will in all cases be the personal responsibility of the practitioner.

17. It will be the duty of the practitioner to prescribe, on forms to be supplied, such drugs and appliances as are within the range of service and as are required for the treatment of patients. Such prescriptions must be signed by the practitioner himself and must not be written in such a manner as to necessitate reference to any previous prescription. The practitioner will also be required to comply with any reasonable request by the Commission for prescriptions for the purpose of testing drugs or appliances.

18. The practitioner shall not himself supply drugs except in special circumstances where supplies may not otherwise be available, and where the Commission directs, but it will be his duty to provide any drugs or appliances urgently required for immediate use and which he may reasonably be expected to have available.

Insurance practitioners will receive separately, payments additional to the capitation fee, for all drugs and appliances supplied to insurance patients.

(ii) The Maximum Number of Persons on a Practitioner's List.

19. Each practitioner will be responsible for treating every insured person whom he accepts by endorsement of a medical card to be provided. A practitioner will also be responsible for treating any insured person who may temporarily be in the district and who applies to him for treatment.

20. He will have the right to reject applicants for treatment or to discontinue the treatment of any patient, but as every insured person must be treated by some insurance practitioner, the exercise of such rights will depend on local circumstances. Insured persons in districts served by more than one insurance practitioner who have not been able to secure acceptance by any of them must be allocated among them by the Commission. The same policy will be followed concerning patients whose treatment is discontinued by any practitioner. It is intended to constitute local committees for such purposes, and these committees will be expected to have regard to the circumstances of each practitioner.

21. An insured person who has not applied to be placed on a practitioner's list will not be allocated to any practitioner.

22. Until experience is gained of the response of insured persons to the opportunities afforded them of obtaining medical attention and advice, and of the habits of such persons in continuing to remain on some practitioner's list, it will be unreasonable to lay down any permanent limit restricting the number of persons whom a practitioner may be permitted to accept.

23. The problem is a difficult one for various other reasons. Medical service is not required in any regular flow. The demands upon the typical practitioner fluctuate with epidemics both minor and major, and with insurance practice these demands will have their peaks at certain hours of the day. At such times (and when, for example, some type of influenza may be prevalent) the consulting rooms of ordinary practitioners are liable to be congested and their visits to be more numerous than usual. During such times any maximum number of insurance patients might strain the resources of a practitioner. The number of attendances at consulting rooms and the number of visits of practitioners will be swollen during these periods.

24. The Commissioners recognize that the Royal Commission will desire to be informed of their intentions in this regard. A standard maximum number is proposed, to be varied in the Regulations after consultation with representatives of insurance practitioners, according to various circumstances and perhaps at various times. In certain localities there will be more itinerant or migrating persons than in others. In some localities the number

of insurance practitioners available may be the most important consideration. In all cases the standard maximum will have to be varied where a practitioner employs an assistant or assistants, or two or more practitioners are in partnership.

25. The standard maximum number should not be based on peak demands for service and must have regard to a somewhat artificial conception of normal or average conditions. In Great Britain the standard maximum for an individual practitioner is 2,500 insured persons. In Australia the general sickness experience is lower than it is in Great Britain, the scope of service is to be more restricted, and the proportion of married women (who generally require more medical aid) among insured persons will be much lower than in Great Britain. These facts might justify the same standard maximum as obtains in Great Britain, but the Commission intends to recommend a Regulation which shall establish a standard maximum for an unassisted individual practitioner of 2,000 persons only.

(iii) Consulting Rooms, Hours of Attendance and Hours and Conditions of Visiting.

26. Practitioners will be required to provide proper and sufficient consulting and waiting room accommodation for their patients, having regard to the circumstances of individual practices, and the usual equipment and facilities for treatment as required. They will be required, also, to have stated hours of attendance at their consulting rooms, to conform with the usual practice for lodge patients in Australia.

27. An insurance practitioner must conduct his practice under conditions which will enable his obligations to visit patients to be adequately carried out.

28. Practitioners will be required to visit and treat patients whose condition requires that service, at any place where the patient may at the time be, within the district served by the practitioner, which district will be defined by arrangements yet to be made.

29. Practitioners will be required to attend at their consulting rooms and to visit patients after having received notice before a stated time on the day of visitation, as part of their duties within the scope of service within the hours to be specified, and will not be required to attend or visit patients as part of these duties outside these conditions except in cases of urgency. It will be within the scope of service to attend all patients and make all visits which, in the opinion of the practitioner, are required by the condition of the patient.

(iv) The Right to Require and Accept Payments from Insurance Patients in Special Circumstances.

30. Insurance practitioners may be entitled to require and accept payments for any of the following services:

- (a) For attendance at a consulting room outside the hours of attendance for treatment which is not urgently required at that time;
- (b) For visits paid to a patient at his home or elsewhere, during hours which are outside the hours of service, or of which notice has not been given before the prescribed time, or for which the visit of the practitioner is not required by the condition of the patient;
- (c) For services required at any time or place, which are not within the scope of the insurance medical service.

As these questions are specifically mentioned in paragraph 5 of the Terms of Reference, I prefer to deal with them at a later stage in my evidence.

(v) Certificates and Records.

31. Insurance practitioners will be required to furnish their patients with certificates of incapacity for work when, in the opinion of the practitioner, their condition warrants that certificate. A first certificate will be required to enable the insured person to claim sickness benefit from his Approved Society. A second certificate

will be required, if the condition of the insured person warrants it, not later than the end of the seventh day after the first certificate. If, in the opinion of the practitioner, the insured person is fit to resume work, this second certificate will be a final certificate for that particular case.

32. If incapacity continues beyond eight days from the date of the first certificate, further certificates will be required from the practitioner week by week during the continuance of incapacity. In chronic cases, however, the rules requiring a weekly certificate will be modified.

33. Insurance practitioners will also be required to keep simple records of treatment and of the diseases of their patients. The records required will be the minimum that any efficient practitioner will desire to keep for his own information.

34. I produce specimen forms for certificates and records. These will be supplied in convenient form for the use of insurance practitioners.

(vi) Co-operation in Administration.

35. Certain smaller incidental duties will accompany these conditions of service, and each practitioner will be required to consult the Regional Medical Officers of the Commission on certain matters of administration and treatment. There will be doubtful cases, both concerning advice to be given to patients for treatment outside the scope of service, and concerning the issue of certificates for incapacity for work. The practitioner will be required to allow the Commission's medical officers reasonable access to records, and to supply them with relevant information. The practitioner will also be required to attend before any tribunal which is dealing with any complaint in which the practitioner himself is concerned, or any other matter of dispute in which he is concerned. The practitioner will be reimbursed of his time and expenses in any such attendances.

36. Practitioners will be expected, though not necessarily as a condition of service, to co-operate with the medical officers of the Commission, with other insurance practitioners, and with referees appointed to deal with complaints and disputes.

It is not expected that these duties will absorb any material part of the time of the typical insurance practitioner. The object of the Commission will be to allow insurance practitioners to play the predominant part in determining the details of their relations to their patients and to one another.

37. In this description of the conditions of service, and in the description of the scope of medical treatment, it has been necessary to refer in general terms to such things as the condition of the patient and the urgency of treatment required by him. It is the Commission's desire that all such matters shall be primarily the responsibility of the insurance practitioner himself. It is hoped that practitioners will consult the Commission's medical officers and will develop satisfactory understandings for the simple and effective interpretation of these responsibilities.

THE REMUNERATION OF INSURANCE PRACTITIONERS.

38. I am now able to approach the particular problems set out in the Terms of Reference. At this stage the Commissioners desire to confine their evidence to the Terms of Reference directly affecting their administration, but before setting out their decision on these matters it is necessary to explain the conditions from which their problems arise.

39. The system of National Health Insurance Finance laid down in the Act provides a certain fixed sum towards the cost of the Commission's administration and other fixed sums from each contribution received. The estimates on which the plan is based are all related to insurance risks which are, of course, actuarially determined. The Health Insurance Fund will be charged with costs of Central Administration and with payments made into the Medical Benefit Account. The balance available will be to

the credit of the Approved Societies, which will administer the cash health benefits under the supervision of the Commission. It will be necessary to protect the interests of the Approved Societies and to provide them, not only with sufficient funds for their own expenditures, and with reserves at least equivalent to their future liabilities, but also to give them some incentive to the accumulation of "disposable surpluses" for expenditure on additional benefits. In short it is necessary that prior charges on the Health Insurance Fund shall be as specific and definite as possible.

40. For these reasons the National Health and Pensions Insurance Bill originally contained a section setting out definite amounts per insured person which were to be allocated to the Medical Benefit Account, from which account all expenses of Medical Benefit were to be made except that the Commission might assist the provision of Health Benefits in remote areas from the sources available to it for administration.

41. When the Government announced its intention to set up a Royal Commission it deleted these specific amounts from the Bill, and the section (Section 118) now provides that the Commission shall credit to the Medical Benefit Account such amounts as are in its opinion necessary to meet the cost of Medical Benefit.

42. The amounts originally allocated for Medical Benefit were based upon the amounts agreed after negotiations with the Executive Committee of the Federal Council of the British Medical Association and included the estimated cost of drugs to be supplied by pharmaceutical chemists. The sums then allotted were the maximum amounts that could be allocated out of the revenue to be received by the Commission and not required for other purposes under the Act.

43. The total costs of Medical Benefit which are to be a prior charge on the Health Insurance Fund before the balance is available for the purposes of Approved Societies comprise the following items:

- (a) The cost of Insurance Medical Service, to be provided from a Medical Service Account;
- (b) The cost of travelling allowances paid to insurance practitioners in respect of their obligations to visit their insured patients in pursuance of their medical service;
- (c) The cost of drugs and appliances to be provided by pharmaceutical chemists and such as may be provided by medical practitioners.

44. The method of remunerating medical practitioners which experience has proved to be the most equitable and satisfactory is that of a capitation rate. Any system of payments by attendance leads to excessive regulation. The same method of a capitation rate is to be used for determining the total of the funds to be provided for medical service. This rate is not necessarily the same as the fee which will be paid to individual practitioners in respect of insured persons for whom they have accepted responsibility. It is a sum from the aggregate of which the medical practitioners as a whole are to be paid for all medical services whether in respect of persons regularly on their lists or otherwise. The distribution of this aggregate amount is a separate problem.

45. The first charge on the fund so assessed is the capitation fee payable for every insured person who is on an insurance practitioners' list. It is impossible to assume what proportion of the total of the insured persons will apply to insurance practitioners for enlistment, but it will certainly be a number short of the total of all insured persons. On the other hand there will be itinerants and migrating persons (some working in various places and some on holidays) who will require treatment from practitioners away from their home districts. Some of these persons will be on practitioners' lists in their home districts and others will not be on any list at all. Special provision must be made for this type of service, and payments in respect of it must be made from the same fund.

46. I desire to repeat that the capitation rate required in establishing the fund need not be the same as the capitation fee used in respect of persons on the list of a practitioner. Similarly that capitation fee need not be the same for practitioners in both metropolitan and rural areas. The negotiations referred to did not go beyond the figure appropriate to the establishment of the fund, but it was understood that sufficient discrimination in favour of country practitioners would be provided by the travelling allowances to be paid separately, and not out of the fund required chiefly for medical treatment.

It will be important that the two charges upon the Medical Service Account, namely (a) the capitation fee in respect of persons on practitioners' lists, and (b) the special payments to be made for the treatment of migrating persons, must not exceed the total of the fund available. There should be a balance after all these charges are made and this balance is to be distributed among practitioners in proportion to the total of their receipts from capitation fees.

I shall now proceed to deal with the subjects of the Terms of Reference in their order.

THE MEDICAL SERVICE ACCOUNT.

47. The Commissioners have no desire to depart from the terms of the agreement reached in March last with the Executive Committee of the Federal Council of the British Medical Association, although that agreement provided a capitation rate per insured person for the purposes of the Medical Service Fund which was higher than the Commissioners thought to be necessary. The Commissioners were prepared to stand by that agreement, but they are bound to interpret its intentions in more detail than was possible at the time it was made.

48. The first principle is that a certain uniform sum shall be credited to that fund in respect of every insured person regardless of his age or of his qualifications for cash benefits. The person becomes insured immediately he enters upon insurable employment and a contribution is made in respect of him and a stamp is affixed to his contribution card. It is of importance to note that once a person becomes insured he is entitled to medical benefit, and will not fall out of insurance for a prolonged period which may extend from 18 to 21 months. This is a very important consideration both with respect to the computation of the fund and with respect to the remuneration of individual practitioners on whose lists there may be persons who are unemployed or have left insurable employment.

These periods are called "free insurance periods" and are provided by Sections 20 and 21 of the Act. No insured person will fall out of insurance merely because he becomes unemployed or even leaves the status of employment until a sufficient time has elapsed for him to regain employment in the ordinary course of events or for him to become a voluntary contributor if he is qualified and chooses to do so. But, for voluntary contributors, there will be an income limit on title to medical benefit.

49. The same sum as for fully insured persons will be paid into the fund for every juvenile (age from fourteen to sixteen years) who is employed and becomes insured, and the same sum will be paid in respect of insurance pensioners when insurance pensions mature five years after commencement of contributions.

50. The basis of computation will probably be the average number of all such persons in the year for which the computation is made. The average number will not be known for some time after the end of the year, but provisional assessments will be made pending the receipt of final figures and they are not likely to be far wrong. Adjustments will be made when final figures are available. An Actuary or other technically qualified person may be appointed by insurance practitioners for checking the calculations if they so desire.

(To be continued.)

National Health Insurance.

MEETING OF THE FEDERAL NATIONAL HEALTH INSURANCE COMMITTEE.

A MEETING of the Federal National Health Insurance Committee was held at the British Medical Association House, 135, Macquarie Street, Sydney, on August 12 and 13, 1938, Sir Henry Newland, the President, in the chair.

The following members were present:

Dr. G. Bell, Dr. H. R. R. Grieve, Dr. W. F. Simmons (New South Wales).

Dr. D. G. Croll, Dr. M. Patterson, Dr. T. A. Price (Queensland).

Sir Henry Newland, Dr. A. F. Stokes (South Australia).

Dr. S. Gibson, Dr. J. R. Robertson (Tasmania).

Dr. F. L. Davies, Dr. D. Emberton, Dr. J. H. Gowland, Dr. J. N. Morris (Victoria).

Dr. K. Aberdeen, Dr. F. W. Carter (substitute for Dr. D. McWhae), Dr. L. Hayward (substitute for Dr. D. D. Paton) (Western Australia).

Dr. R. C. Trall, Chairman of the New South Wales National Health Insurance Committee, was present as a co-opted member.

Dr. C. H. Dickson, Medical Secretary of the Victorian Branch of the British Medical Association; Mr. E. H. Ward, Financial Secretary of the Victorian Branch; and Dr. J. G. Hunter, General Secretary of the Federal Council, were also present.

Apologies were received from Dr. W. L. Crowther, Tasmania, and Dr. F. St. J. Poole, South Australia.

The meeting was attended by Mr. L. Abrahams, K.C., Mr. A. C. Gain, and Mr. N. L. Cowper, the legal representatives of the profession.

The business of the meeting was the consideration of the profession's case to be presented before the Royal Commission.

THE NATIONAL AUSTRALASIAN CONVENTION.

THE Commonwealth of Australia Bill was debated at the National Australasian Convention, at Adelaide, from March 22 to May 5, 1897. The following is taken verbatim from the official report of the debates (see Dr. J. Colvin Storey's letter in this issue).

Sub-section XVI.—Insurance, including State insurance extending beyond the limits of the State concerned.

MR. HIGGINS: I desire to understand whether by the word "State" here is meant a particular colony, or is it used in the general sense—the State as distinct from the individual? I apprehend that the word "State" means a particular colony, but I confess I do not understand the meaning of the term.

MR. O'CONNOR: This is a new sub-section. It proposes to include insurance, and I think it is a very desirable inclusion amongst the list of powers. However, it involves a principle. The part the hon. member referred to is for this purpose: it was suggested that colonies might undertake State insurance, as was done in New Zealand, and it was held that State insurance should not come under the general laws. From that view I entirely dissent; but this clause was drawn in accordance with the views of the Constitutional Committee. The hon. member will see, therefore, that the words "State insurance" simply indicate that whereas a State within its own boundaries should have control of all its insurance business, and the regulation of its insurance under any State system, so far as it deals with the people within its own boundaries, any part of its system that proposes to deal

with people beyond its boundaries should come under the general laws. "State" is used to designate colony. I should support the hon. member if he moved to strike out:

Including State insurance extending beyond the limits of the State concerned.

MR. ISAACS: It would include all insurance then?

MR. O'CONNOR: Yes; and I think it ought to. If a State chooses to go into the business of insurance—I do not say it is wise or not—I do not see why any departure should be made as to the uniformity of laws with regard to insurance. The State should be subject to the same limitations as the individual if it goes in for State insurance. It would be absurd to say it should not. Supposing every State adopted a system of State insurance, according to this exception each State would be able to adopt a different method, so long as it kept within its own boundaries, and you might have five different systems of insurance outside the general law.

MR. ISAACS: Is that not States rights?

MR. O'CONNOR: No; because you start with the proposition that general insurance laws must be the same throughout the colonies.

MR. SYMON: The object of this, I understand, is to exercise a federal control over any State undertaking the business of insurance outside its own boundaries. I agree, and most people will too, that if a State enters upon a commercial undertaking it should have no privileges and exemptions from which ordinary individuals are not free; but the language used here seems to be open to the criticism of Mr. Higgins.

MR. WISE: By keeping it in you give special privileges within its boundaries.

MR. SYMON: To that I do not object. If South Australia chooses to establish a system of State insurance, I do not see why she should not within her own limits. It affects her own subjects only, and we should diminish the rights of self-government if we decided otherwise; but if South Australia opens agencies in Victoria, then the federal law should be able to say, "If South Australia chooses to enter into commercial rivalry with those companies outside her own territory, she should be subject to the conditions imposed in other countries". I think that is the extent to which this provision was intended to go.

MR. O'CONNOR: Hear, hear.

MR. SYMON: It seems to me that these words:

Including State insurance extending beyond the limits of the State concerned

ought to be, in the sense in which they were inserted —

MR. HIGGINS: Struck out.

MR. SYMON: No; retained. But I doubt with Mr. Higgins whether they exactly and clearly give effect to that sense. I suggest some verbal modification such as the following:

Including any business of State insurance extending its operations beyond the limits of the State adopting it.

MR. O'CONNOR: Hear, hear. That would be better.

MR. SYMON: The words:

State concerned
are a little ambiguous.

MR. HIGGINS: I agree thoroughly in principle with Mr. Symon as to his intentions, but I would suggest that what is wanted here is an excluding phrase, and not an including phrase. Insurance covers all kinds of insurance. You want an excluding phrase. "Insurance" will be the general expression, and then will follow:

Except State insurance confined to the limits of the particular State.

MR. SYMON: That is the better way.

MR. KINGSTON: Put it this way:

Excluding State insurance within the State limits.

MR. GLYNN: We ought to be careful as to how we restrict the operations of State insurance. In 1869 New Zealand

State insurance was established, and now, as a matter of fact, a very large business is carried on by the Government of New Zealand beyond the limits of that colony. According to the statistics of 1891, the position of New Zealand State insurance in Australia was second only to that of the Australian Mutual Provident Society.

MR. FRASER: The New Zealand Government do not go beyond their own limits.

MR. GLYNN: They do. Policies are taken up elsewhere. And we ought to be careful how we attempt to confine the business of the New Zealand State insurance to the colony, because Australian insurance companies do large business in New Zealand, and the New Zealand Government may retaliate by excluding them. In 1891, out of 56,000 policies in force in New Zealand, the Government held 29,256, and the Australian Mutual Provident 16,761. If you impose a federal law, restricting the operation of State insurance without the limits of that State —

MR. HIGGINS: That is not intended. The intention is to have the federal law only to apply to insurance which is general over the colonies.

MR. GLYNN: You can impose a restriction upon New Zealand in carrying on business within the limits of the federal power.

MR. O'CONNOR: Why should New Zealand State insurance be in any different position from the insurance of any company?

MR. GLYNN: The present law extends to New Zealand State insurance. If you impose a special law upon State insurance, the result will be that New Zealand will probably impose a company law in New Zealand.

MR. FRASER: I do not think, notwithstanding what Mr. Glynn says, that the New Zealand Government insurance department is doing any business outside of New Zealand, with the exception of receiving premiums.

SIR PHILIP Fysh: Only that their policy-holders travel.

MR. DEAKIN: They only receive the premiums here.

MR. FRASER: If a policy-holder goes to Kamtschatka, of course the premiums will be paid to the department all the same.

MR. DEAKIN: Is that near Oodnadatta?

MR. FRASER: Yes, I suppose. I think it would be grossly unfair to allow a State to extend its operations in life or any other insurances beyond its own limits. A department might be as rotten as possible, and carry on a huge business at great risk, and nobody would be able to control it. I think it is the duty of the Federal Parliament to make a law for the whole Commonwealth, giving a State power to establish an insurance department within its own borders; but to give a department the liberty of going outside its borders would be as absurd a thing as could be allowed.

MR. WALKER: I would like to move:

That all the words after "insurance" be deleted.

THE CHAIRMAN: You cannot do that. An amendment has been made by Mr. Higgins.

MR. HIGGINS: I do not want to embarrass Mr. Walker if he has an amendment which ought to be discussed, but I cannot see at present how my amendment may fit with his. My idea is this: That the Federal Parliament should be allowed to deal with all insurance matters, with only one limitation. I would refrain from dealing with State insurance in the colony establishing it, but if that colony extends its operations to other colonies, I do not see why it should not be treated like an ordinary company.

THE CHAIRMAN: As a matter of procedure, Mr. Walker wishes to make no exceptions at all. He therefore proposes to strike out all the words after "insurance".

MR. HIGGINS: Of course, if it will help him to have the question discussed, so long as it is understood that my amendment is to be submitted, I am quite agreeable.

THE CHAIRMAN: I would point out that you cannot do that afterwards.

MR. HIGGINS: Well, I must press it then.

SIR GEORGE TURNER: I might point out that those who are desirous of striking out the words might do so without proposing that some other words be inserted. It would then leave a blank to be afterwards filled.

MR. HIGGINS: I agree to that.

THE CHAIRMAN: Mr. Higgins proposes to strike out the word "including", with the view of inserting something else.

MR. FRASER: I do not quite understand what this will lead us to.

THE CHAIRMAN: It will lead to a blank which the Committee may or not fill up.

MR. KINGSTON: I understand that if the word "including" is struck out Mr. Higgins will afterwards move to insert:

Excluding State insurance within State limits.

SIR GEORGE TURNER: Then if you propose to put in the words, that means striking out the lot.

MR. FRASER: I am more in favor of striking out the lot.

HON. MEMBERS: Then vote against it.

MR. FRASER: I am anxious that others should do so as well as myself.

HON. MEMBERS: We will.

MR. HIGGINS: I think my friend is under a misapprehension as to this. I am limiting insurance matters for the Federal Parliament to have control over. I propose to exclude certain matters from federal control. The expression then will be to the effect that the Federal Parliament is to have power to make laws for insurance, but it is not to have power to make laws as to insurance effected within the limits of a colony by that colony. Then I think that my friend will be in favor of my view that the word "excluded" ought to be inserted.

MR. WALKER: I am sufficiently old-fashioned to consider that insurance is a business, and I therefore want law to apply to all insurance companies, whether State insurance companies or otherwise. I intend to vote against any amendment.

Amendment—striking out all words after "insurance" agreed to.

MR. HIGGINS: I now move:

To insert "excluding State insurance not extending beyond the limits of that State".

Amendment agreed to; sub-section, as amended, agreed to.

Correspondence.

ACUTE TUBERCULO-SILICOSIS.

SIR: It is noted that Dr. J. G. Edwards has expressed his opinion on the case reported as "acute tuberculo-silicosis" under my name in your issue of July 9, and that he takes exception to the word "acute". This word was used in a relative sense by me, to imply an extraordinarily rapid evolution of silicosis, which, in my opinion, was activated by a tuberculous infection of the left lung. The radiograph of the subject's chest, taken in 1935, revealed no suspicion of tuberculosis.

My experience among workers exposed to siliceous dust tend to show that, where silicosis of the coarsely mottled radiographic type develops, length of exposure to dust inhalation is secondary in importance to the presence of infection in determining rate of onset.

In the case under review, the radiographic appearances in the right lung are definitely silicotic when compared with radiographs of other silicotic subjects, of which I see a great number in Kalgoorlie.

The patient has declined rapidly since the report was written and is believed at present to be at the point of death.

Yours, etc.,

KEITH R. MOORE,
Medical Officer-in-Charge.

Commonwealth Health Laboratory,
Kalgoorlie,
July 25, 1938.

THE GIBSON FUND, QUEENSLAND.

SIR: In the journal of February 12, 1935, page 319, reference is made to a fund which was opened in Queensland to assist in the education of the children of the late Dr. Leslie Wylie Norman Gibson, who was Honorary Secretary of the Queensland Branch for a number of years.

It is considered by my council that it would be of interest to members who had contributed, to know the result of the fund. It would be appreciated, therefore, if you would kindly give this information through the columns of the journal. A cheque for the sum of £373 11s. 4d. has been sent to Mrs. Gibson, who has returned to England, and through the generosity of a member it will be paid to her free of exchange.

Yours, etc.,

HORACE W. JOHNSON,
Honorary Secretary, Queensland
Branch of the British Medical
Association.

British Medical Association House,
225, Wickham Terrace,
Brisbane.
July 26, 1938.

NATIONAL HEALTH INSURANCE.

SIR: I have read with great interest many of the letters appearing in our journal regarding national health insurance.

In my opinion, most of them lose sight of the inevitability of national insurance, and of the essential fact, for us, of an equitable scheme.

In the first place, I think the income limit of £365 is too high. Surely all single men, and most married ones too, can afford to pay their own rare medical fees out of £7 per week. But the most pernicious factor is the lack of limit on the earnings of manual workers. Here in my district there are meat workers earning up to £16 weekly for at least nine months of the year, and coal miners earning £10 to £12 weekly all the year round. Why they should be included in the scheme, Casey alone knows; perhaps he could be prevailed upon to tell.

As regards the medical practitioners in north Queensland, we feel that, whatever final scheme is adopted, it should make provision for a northern parity, similar to that included in all industrial awards for north Queensland.

Finally, the provision of a mileage rate that will at least cover our out-of-pocket expenses, should be made. It is ridiculous to include all patients within three miles of our surgery under the capitation fee. It costs at least sixpence per mile to run a car, so that each call paid to an outlying patient will cost us 3s. It needs no imagination to see that, as far as we are concerned, the proposed scheme is not "actually sound".

Yours, etc.,

George Street,
Bowen,
Queensland.
August 2, 1938.

PETER R. DELAMOTHE.

SIR: After twenty-five years' experience of contract practice I entirely endorse Dr. Bryan W. Monahan's letter appearing in your journal of July 28.

Let us definitely affirm that the National Health Insurance Bill is not in the best interests of the public, and refuse to have anything to do with it or any Act controlled by lay officials and actuarial valuations. The present system of contract practice offers no such objections; for one has the full benefit of cooperation between patient and doctor, unhampered by any outsider. This system could be extended by a vigorous policy of publicity re lodges and their benefits, or else by a system of advising the public to apply in writing to the Secretary of our local Branch for permission to join the contract list of their named doctor, all such applications to be dealt with by the local committee of the Branch. The machinery is there; only the details need adjusting.

Yours, etc.,

C. R. PALMER.

Bulli,
New South Wales,
August 3, 1938.

SIR: Contrary to the opinion of Dr. Paul Dane, that money is not the important problem, as advanced by Douglas, my considered opinion is that C. H. Douglas's exposition of the real facts of natural possibility and the imposed artefacts of financial power is unique, masterly and irrefutable.

It seems obvious to me that no social or economic problem ever arises but what the statement that "it is all a question of finance or funds" has to be tackled on. And when we realize that in reality "nothing costs money" and that "money costs nothing to make", the insane tyranny of this national insurance business becomes apparent. For it is not a health insurance bill at all. It is a financial bill to repress medical services into a totally inadequate supply of money.

I postulate an axiom that there is not anything within reason that a person may desire that he cannot obtain, provided he can produce the money. It seems to me that the money system is the important factor and is not, as Dr. Dane states, unimportant. I doubt if Dr. Dane's city landlord would accept his services in lieu of money as rent.

Yours, etc.,

JOHN DOWD.

17, Collins Street,
Melbourne,
August 5, 1938.

SIR: With pleasure I lend you a copy of the "Official Reports of the National Australasian Convention Debates", Adelaide, 1897.

From page 779 you will find the debate on the sub-section of the Constitution on which the Commonwealth Parliament has passed the *National Health and Pensions Insurance Act*. Perhaps it would be of great interest to your readers if you could find space to publish verbatim the debate on this sub-section.

The *Commonwealth of Australia Constitution Act* (Part V, Powers of the Parliament), section 51, reads:

The Parliament shall, subject to this Constitution, have power to make laws for the peace, order, and good government of the Commonwealth with respect to: . . .

(ix) Quarantine: . . .

(xiv) Insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned: . . .

(xxiii) Invalid and old-age pensions: . . .

"Health" is not mentioned.

Yours, etc.,

J. COLVIN STOREY.

185, Macquarie Street,
Sydney,
August 10, 1938.

THE CONTACT LENS.

SIR: I would like to correct some of the statements in Dr. Pockley's letter. They are the result of "very extensive inquiries and investigation" made by Dr. J. A. Pockley, who arrived in London fifteen months ago, and who immediately got in touch with me. Before proceeding, I would hasten to point out that the identity of a "man named Dallos" is Dr. Josef Dallos, qualified ophthalmologist of one of the two schools in Budapest, and that by invitation he read a paper on the contact lens before the Oxford Ophthalmological Congress in 1937.

In the spring of 1937, Miss Ida Mann, F.R.C.S., honorary surgeon to the Royal London Ophthalmological Hospital, Mr. Williamson-Noble, F.R.C.S., honorary surgeon, Central London Eye Hospital, and Mr. Phillips, who had just retired from the position of house surgeon to the Royal London Ophthalmological Hospital, visited Budapest and spent three weeks working with Dr. Dallos, with the object of investigating his work. They reported favourably, and the project of a contact lens centre was put forward. In answer to my letter to Miss Mann, inquiring about the progress of the centre, some months after I had worked there, Miss Mann writes on March 24, 1938:

About the Centre, there is at present no actual constitution drawn up, though there are numerous minutes and tentative agreements. The gist of the matter is this:

The Centre is run by an Executive Committee of three ophthalmic surgeons (Williamson-Noble, Rugg-Gunn and myself), and an Advisory Committee of six senior surgeons (Sir John Parsons, Sir William Lister, Messrs. Leslie Paton, Foster-Moore, McMullen, and Wing Commander P. C. Livingston). The Executive Committee rent the consulting rooms and waiting rooms at 18 Cavendish Square, and have personally met the expenses of equipping and furnishing the rooms, and have guaranteed the rent and payment of a secretary-receptionist. Messrs. Hamblin have been appointed opticians to the Centre. Dr. Dallos is working for Messrs. Hamblin and acts as honorary technical adviser to the Centre.

The three of us who have put up the money for the Centre cannot make any profit from it, and are bound to meet any deficit. If the Centre shows a profit, we will be repaid our original outlay without interest. Any subsequent profit will be administered by the Advisory Committee for the furtherance of contact lens work and for the establishment of a Samaritan Fund for poor patients.

Neither the Centre nor Messrs. Hamblin shall supply contact lenses except on the recommendation of an ophthalmic surgeon.

The Centre is open to all ophthalmic surgeons, who are at liberty to bring their patients there and fit them themselves if they are able, or if not, they can obtain the services of Dr. Dallos for the fitting.

The general rules of procedure are that surgeons sending patients to the Centre should furnish them with a prescription for contact lenses and when the lenses are completed, the surgeon should call at the Centre to see them in wear. For this service a total fee of £6 6s. is suggested, to be rendered either from his consulting room or by the Centre, as the individual surgeon wishes. In addition to this £6 6s. the patient will pay £21 for fitting and £12 for the lenses when the power is less than 10 diopters. If 10 diopters or more, the charge is £20. These two items will always be charged on one account (£33 or £41). If the fitting is done by a surgeon, then he is paid £10 10s. of the £21. The Centre retains £5 5s., but in this case their staff do not carry out actual fitting, but only supervise. If the fitting is done by Hamblin's technicians, the Centre retains £10 10s. and pays Hamblin's £10 10s.

As we have had a number of bad debts, it is now customary for the patients to pay a deposit of half the cost of the lenses on the commencement of the fitting, and the balance on completion, before the lenses are delivered.

We are getting on all right, the only snag being the slowness of the process, owing to the lack of trained technicians.

Again, on June 9, in reply to my request for statistics, Miss Ida Mann writes:

Mr. Williamson-Noble is reading a paper in three weeks' time, which will entirely meet your queries. He says that he will let you have a copy of it as soon as he can to save me writing a long dissertation.

Dr. Pockley obviously misstates the price, and the statement that Dallos is the "Continental originator of the idea, who brought it to London and got Hamblin's to take it up" is seriously erroneous. I happen to know some of the details of the negotiations, and affirm that Dr. Dallos was extremely reluctant to leave his native city. It was no easy matter to persuade him.

The reasons why Hamblin's figure so prominently is because the mechanical and optical side required finance, skilled workers, and the backing of a reputable house. The other man who is learning how to do the fitting is a qualified ophthalmologist. The members of the executive committee are skilled at fitting. In a letter dated June 1, 1938, Dr. Dallos states that he is abandoning the taking of casts in favour of using a very extensive range of "near" fits and working from one of these as a primary base.

It is imperative that fittings should always be done by qualified ophthalmologists; the work has to be done with cocaine eyes, and full responsibility must be accepted. The use of the slit lamp as a general routine in fitting was abandoned long ago. Dr. Dallos does not even use a loupe. It requires something more than surgical skill, because it combines this with an appreciation of form and line, and above all, infinite patience. I have suggested that to do contact lens work with a busy practice one must be prepared to abandon a favourite hobby and get up an hour earlier. The opticians have for their part to be highly trained in the complicated process of manufacture of the glass, and polishing and grinding of the final correction on the glass cornea. It is only by their close intelligent cooperation with the qualified ophthalmologist that success is possible.

Yours, etc.,

JOHN MAUDE.

143, Macquarie Street,
Sydney,
August 8, 1938.

ANÆSTHESIA IN PULMONARY TUBERCULOSIS.

SIR: I have only just read the Anæsthesia Number of the journal, and I apologize for discussing so late Dr. Gilbert Brown's paper on "Anæsthesia in Pulmonary Tuberculosis".

1. "It is obvious", writes Dr. Brown, "from these two cases that ether is definitely contraindicated in patients who are suffering from pulmonary tuberculosis." Such a conclusion is certainly not obvious; surely what is obvious is the inadvisability of making *ex cathedra* utterances because of what happened to two tuberculous patients who inhaled ether. I have no doubt that others could produce evidence supporting Dr. Brown's conviction; yet at the Massachusetts General Hospital, where all modern anæsthetics are available, Professor Edward Churchill and his anæsthetist think that ether with oxygen is the best anæsthetic. As I watched him do such operations as thoracoplasty and lobectomy under ether-oxygen anæsthesia I was impressed; later, when I saw many of these patients convalescing, I felt that it would have been unreasonable not to admit that ether could be a suitable anæsthetic for patients with tuberculosis and bronchiectasis.

2. Elsewhere Dr. Brown says: "frequently they [the patients having thoracoplasty for tuberculosis] are debilitated and have pyrexia, cough and sputum." Cough and sputum most of them certainly have; but except under special conditions patients with debility and pyrexia are not fit subjects for thoracoplasty.

3. "Phrenic evulsion is much easier to perform under one of the gaseous anaesthetics than under local infiltration anaesthesia. The position and manipulations are distressing to a conscious patient." Whether it is indeed easier to perform this operation under gaseous anaesthesia, I do not know, as I have never used or seen used anything but local anaesthesia; but even if it were, it is irrelevant. The point is that the operation can be done on a conscious patient without any distress at all. I would here interpolate that phrenic crush (temporary paralysis) should, as a rule, be preferred to evulsion.

Yours, etc.,

M. P. SUBMAN.

143, Macquarie Street,
Sydney,
August 11, 1938.

THE PROBLEM OF SYPHILITIC INFECTION.

SIR: As I have already stated, it is well known that a man can live with a woman who has active syphilis and not contract the disease from her. I know a man who told me that he was a patron of a prostitute for two years and that he knows for a fact that during that time she gave three men syphilis. Three months after leaving her he contracted the disease from another woman. Evidently there are many types of *Spirochæta*. To simplify matters we will say there are *a*, *b*, *c*, *d* and *e* types. And with the human being there are *A*, *B*, *C*, *D* and *E* types. The *a* type of spirochæta is infective and will cause disease in the *A* type of individual, but will remain a saprophyte in *B* and die in *C*, *D* and *E*. *A*, who has contracted syphilis, marries a woman of *B* type. She does not contract the disease, but remains a carrier. If *A* dies and she gets married again, or if while *A* is alive she indulges in extramarital intercourse, she can give a man syphilis if he is of the *A* type.

Truffi mentions a case where a man who was treated for syphilis got married, and three years after marriage his wife developed a chancre. The explanation is that either she got infected from her husband, who went outside matrimony and brought back a type to which she was susceptible, or that she did something similar.

I think, as McDonagh stated a few years ago, that it would be advisable to suspend judgement on all matters connected with syphilis pending a resifting of the information we have acquired on the subject.

Yours, etc.,

J. MORRIS ROE.

Victory Chambers,
Queen Street,
Brisbane.
August 8, 1938.

The Royal Australasian College of Surgeons.

GORDON CRAIG SCHOLARSHIPS, 1939.

We have been asked to publish the following notice.

The Council of the Royal Australasian College of Surgeons invites applications for the Gordon Craig educational and research scholarships for 1939.

Regulations.

The following regulations govern the award of the scholarships:

1. The Council of the Royal Australasian College of Surgeons, having been made the residuary legatee of the estate of the late Gordon Craig, Esquire, F.R.A.C.S., one of the founders of the college and a member of its council, has decided, in accordance with the wishes of the testator,

to devote portion of the income of this bequest to the endowment of post-graduate educational and research scholarships, to be known as the Gordon Craig Scholarships.

2. The council shall award scholarships to such amount in each year as, in its discretion, it thinks fit. Any portion of the income which remains unexpended in any one year may be dealt with as the council may determine.

3. The Gordon Craig Scholarships for post-graduate education shall be awarded, at the discretion of the council, to applicants who wish to undergo that course of training which is demanded of candidates for fellowship of the college. The Gordon Craig Scholarships for surgical research shall be awarded to applicants who, in the opinion of the council, display special aptitude for this work.

4. Each scholarship shall be awarded for a period of one year, but the council may, if it thinks proper, renew the award annually for a maximum period of three years.

5. The council shall have power to determine the manner in which any scholarship shall be paid, and shall have power to cease payment at any time should the work or general conduct of the recipient prove unsatisfactory.

6. The council shall have complete freedom in determining the value and the number of scholarships. It may, at its discretion, refuse to bestow scholarships in any year. It may also, if it deems fit, award the total amount available to one applicant only. Alternatively, it shall have power to distribute the amount available between any number of applicants in any proportion it considers proper.

7. The council shall have full power to prescribe conditions in regard to the type of educational or research work to be undertaken and in regard to the place in which this work shall be done.

8. The council shall have power, at any time, to require any scholar to submit a report upon the work he has done and shall also have the right to obtain any additional information which may serve to inform it of the manner in which this work has been performed.

9. Applications for scholarships must be lodged, on the prescribed forms, with the secretary of the college, on or before a date to be advertised from time to time in *The Australian and New Zealand Journal of Surgery*, *The Medical Journal of Australia* and *The New Zealand Medical Journal*. The deans of the faculties of medicine in Australia and New Zealand will be notified of the date on which applications must be lodged.

10. Applicants for Gordon Craig Scholarships, if not eligible for Fellowship of the Royal Australasian College of Surgeons, may be required, at the discretion of the council, to undertake to proceed to the examination for this diploma upon the completion of the prescribed post-graduate training. Applicants for travelling scholarships must possess a senior surgical qualification recognized by the council.

11. The council shall have first claim in regard to the publication of work done by scholars and may require that such work shall be published in the journal of the college.

12. Should it so desire, the council may require post-graduate students or research scholars to repay the amount of the scholarships over a definite period of years without the imposition of any charge for interest.

Forms of Application.

Applications must be made on the prescribed form, which is obtainable from the Secretary of the Royal Australasian College of Surgeons, and must be lodged with him on or before December 31, 1938.

H. G. WHEELER,

Secretary.

Royal Australasian College of Surgeons,
Spring Street,
Melbourne, C.I.
July 29, 1938.

(nJ)

Obituary.

WARREN JAMES FEARNLEY.

WE are indebted to Dr. T. R. Edmeades for the following account of the career of the late Warren James Fearnley.

Warren James Fearnley died at his home in Charters Towers on July 3, 1938, at the age of fifty-eight, death being due to a pontine hæmorrhage, occurring during sleep. An old boy of Wesley College, he graduated from Melbourne University in 1902 with final honours in surgery. After a term as resident at the Brisbane General Hospital he came to Charters Towers in 1905. He entered into partnership with the late Dr. Harry Lister, and practised on the goldfield until his death, his partner predeceasing him in 1920. Always keen on surgery, "W.J." devoted much of his energy to this branch, and was associated in an honorary capacity with the local district hospital to the end. He was enormously energetic and keen in his work, and was held in high esteem by an extensive connexion, a large number of his patients coming from great distances in the western country. Frequently brusque in manner and of stern exterior, he was kindly within, and all who sought his assistance in ill health found a consideration for their troubles which welded the bonds between the doctor and his patients.

He was a great lover of sport and played a good game of cricket and tennis and in later years golf. But his idol was the "sport of kings", and for more than a quarter of a century he was chairman of the executive of the North Queensland Racing Association. His quick brain, terse summing-up of evidence, complete knowledge of the sport from every angle and judicial mind rapidly gained him recognition as the outstanding personality of racing in the north, to which his demise comes as a calamity. Mainly through his enthusiasm and ability the status of the North Queensland Racing Association was raised to a high level among racing circles in Australia. For many years he annually visited the southern capitals for their main racing carnivals, and was a well-known figure there.

In 1915 he went with the Kennedy Regiment as regimental medical officer to Thursday Island and Rabaul, taking part in the earliest Australian activities in the Great War. For several years past he was a major in the Australian Army Medical Corps Reserve.

Fearnley was a man of moods and difficult to understand. To his colleagues he was courteous, considerate and a strict observer of professional ethics, always ready to lend a hand when one was in difficulties. He played his part in making Charters Towers one of the happiest places in which to practise, free from petty jealousies and bickerings. His loss leaves a gap in the lives of his colleagues that cannot be filled.

GEORGE LEIGH TOMLINSON.

WE regret to announce the death of Dr. George Leigh Tomlinson, which occurred on August 12, 1938, at Casino, New South Wales.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Act, 1912 and 1915*, of New South Wales, as duly qualified medical practitioners:

Hercus, Harold Dundonald Macky, M.B., B.S., 1937 (Univ. Sydney).

Murphy, Ian Stephen MacLeod, M.B., B.S., 1937 (Univ. Melbourne), Balmain Hospital, Balmain.
 Clein, Peter David, L.L.M., 1921, R.C.P., R.C.S., 1921 (Ireland), Culcairn.
 Brown, Maxwell Mansfield, M.B., B.S., 1938 (Univ. Sydney), 24 Reddall Street, Manly.
 Davey, Patricia Reeves, M.B., B.S., 1938 (Univ. Sydney), 8, Havilah Street, Chatswood.
 Duval, Robert Andrew, M.B., B.S., 1938 (Univ. Sydney), 35, Ocean Avenue, Double Bay.
 Elias, Leaton, M.B., 1938 (Univ. Sydney), Balmain Hospital, Balmain.
 Greenwell, Colin Campbell, M.B., B.S., 1938 (Univ. Sydney), 19, Ithica Road, Elizabeth Bay.
 Grey, Bazel Henry Louis, M.B., B.S., 1938 (Univ. Sydney), 1, Waratah Street, Chatswood.
 Gunther, William Willis, M.B., 1938 (Univ. Sydney), Royal North Shore Hospital, St. Leonards.
 Hill, James Allan, M.B., 1938 (Univ. Sydney), Brisbane General Hospital, Brisbane.
 Holley, William Chalfont, M.B., B.S., 1938 (Univ. Sydney), 146, Addison Road, Marrickville.
 Howle, Don Creswell, M.B., 1938 (Univ. Sydney), 38, Brentwood Avenue, Turramurra.
 Humphery, Ronald James, M.B., B.S., 1938 (Univ. Sydney), 56, Shellcove Road, Neutral Bay.
 Jeffrey, Roderick Lionel, M.B., B.S., 1938 (Univ. Sydney), 370, Edgecliff Road, Woollahra.
 Larkins, Nicholas, M.B., B.S., 1938 (Univ. Sydney), 18, Gladstone Avenue, Hunter's Hill.
 Lee, Milton Raymond, M.B., B.S., 1938 (Univ. Sydney), 17A, Gardyne Street, Waverley.
 Meek, Victor Robertson, M.B., B.S., 1938 (Univ. Sydney), Curraghbeena Road, Mosman.
 Moore, Doreen Olive, M.B., B.S., 1938 (Univ. Sydney), Commonwealth Parade, Manly.
 Nash, Norman Eccles, M.B., 1938 (Univ. Sydney), Brisbane General Hospital, Brisbane.
 Poldevin, Leswyn Oswyn Sheridan, M.B., B.S., 1938 (Univ. Sydney), 7, Phillip Court, Latimer Road, Bellevue Hill.
 Russell, William Vincent, M.B., B.S., 1938 (Univ. Sydney), 4, Sybil Street, Eastwood.

QUEENSLAND.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Acts, 1925 to 1935*, of Queensland, as duly qualified medical practitioners:

Burgess, Clara, M.B., Ch.B., 1933 (Liverpool), Aramac.
 Carter, Donald Ashley Billing, M.B., B.S., 1938 (Univ. Sydney), Brisbane.
 Clipsham, Sidney Brookes, M.B., 1938 (Univ. Sydney), Brisbane.
 Heyes, Kathleen, M.B., B.S., 1927 (Univ. London), M.R.C.S., L.R.C.P., Brisbane.
 Hill, James Allan, M.B., 1938 (Univ. Sydney), Brisbane.
 Hillman, William Arnold, M.B., B.S., 1938 (Univ. Sydney), Brisbane.
 Lyne, Ronald George, M.B., B.S., 1935 (Univ. Sydney), Woodford.
 Yeates, Roderick Angus Macrae, M.B., 1930 (Univ. Sydney), F.R.C.S., 1937, Toowoomba.

SOUTH AUSTRALIA.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Practitioners Act, 1919*, of South Australia, as duly qualified medical practitioners:

Lewin, Joachim, L.R.C.P. and S., 1937 (Edinburgh), L.R.F.P.S., 1937 (Glasgow), Melbourne.
 Orton, Phillip John, M.B., B.S., 1935 (New Zealand), Claremont, Western Australia.

Books Received.

THE HYPOTHALAMUS: MORPHOLOGICAL, FUNCTIONAL, CLINICAL AND SURGICAL ASPECTS, by W. E. Le Gros Clark, D.Sc., F.R.C.S., F.R.S., J. Beattie, M.D., D.Sc., G. Riddoch, M.D., F.R.C.P., and N. M. Dott, F.R.C.S.: 1938. Edinburgh: Oliver and Boyd, for the William Ramsay Henderson Trust. Crown 4to, pp. 223, with over 100 illustrations. Price: 12s. 6d. net.

HAPPINESS AND HEALTH IN WOMANHOOD, by "Cyrus Fullerton", with a foreword by H. Sutton, O.B.E., Ch.B., B.Sc., M.D., D.P.H., E. S. Morris, M.D., Ch.M., D.P.H., and J. G. Drew, M.A., M.B., B.Ch., M.R.C.S., L.R.C.P., D.P.H., D.T.M., D.T.H., F.R.S.I.: 1937. Sydney: Father and Son Welfare Movement. Crown 8vo, pp. 74, with illustrations. Price: 2s. net.

PRINCIPLES OF DIAGNOSIS, PROGNOSIS AND TREATMENT: A TRILOGY, by R. Hutchison, M.D., LL.D., F.R.C.P.: Second Edition: 1938. Bristol: John Wright and Sons Limited; London: Simpkin Marshall Limited. Crown 8vo, pp. 53.

Diary for the Month.

AUG. 23.—New South Wales Branch, B.M.A.: Medical Politics Committee.

AUG. 24.—Victorian Branch, B.M.A.: Council.

AUG. 25.—South Australian Branch, B.M.A.: Branch.

AUG. 25.—New South Wales Branch, B.M.A.: Branch.

AUG. 26.—Queensland Branch, B.M.A.: Council.

Medical Appointments.

Dr. E. C. Palmer has been appointed Government Medical Officer at Scarborough, New South Wales.

Dr. A. B. J. Cope has been appointed a Medical Inspector of Seamen at Esperance, Western Australia, in accordance with the provisions of the *Navigation Act* of 1912-1935.

Dr. F. H. A. Stegmann has been appointed Honorary Medical Officer to the Mount Gambler Hospital, Mount Gambler, South Australia.

Dr. T. Hamilton has been appointed a Medical Inspector of Seamen at Newcastle, New South Wales, pursuant to the provisions of the *Navigation Act*, 1912-1935.

Dr. S. G. Stevens has been appointed Senior Medical Officer in the Department of Mental Hospitals, New South Wales.

Dr. L. C. E. Lindon has been appointed a Member of the Adelaide Hospital Advisory Committee, at Adelaide, South Australia.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser", pages xvi to xix.

ADELAIDE CHILDREN'S HOSPITAL, ADELAIDE, SOUTH AUSTRALIA: Resident Medical Officer, Medical Superintendent.

CAIRNS HOSPITALS BOARD, CAIRNS, QUEENSLAND: Assistant Medical Officer.

CHILDREN'S HOSPITAL (INCORPORATED), PERTH, WESTERN AUSTRALIA: Junior Resident Medical Officers.

GRESSWELL SANATORIUM, MONT PARK, VICTORIA: Resident Medical Officer.

METROPOLITAN INFECTIOUS DISEASES HOSPITAL BOARD, ADELAIDE, SOUTH AUSTRALIA: Resident Medical Officer. SYDNEY HOSPITAL, SYDNEY, NEW SOUTH WALES: Senior Resident Medical Officer.

THE LORD HOWE ISLAND BOARD OF CONTROL: Medical Officer. THE OTAGO HOSPITAL BOARD, DUNEDIN, NEW ZEALAND: Resident Surgical Officer.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCHES.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17.	Brisbane Associate Friendly Societies' Medical Institute. Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
SOUTH AUSTRALIAN: Secretary, 178, North Terrace, Adelaide.	All Lodge appointments in South Australia. All contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 305, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.

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